STATE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.
VA.		x	0000-000-000 SEE TABULATIONS BELOW FOR SECTION NUMBERS	1

City of Lynchburg, Virginia

STADIUM NEW PARKING

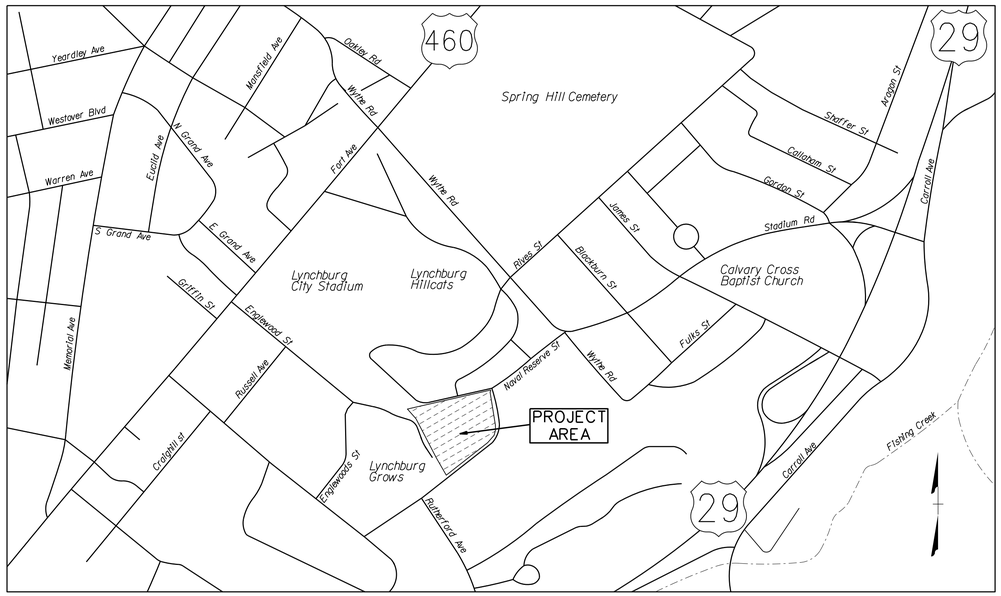
FINAL PLANS
NOVEMBER 1, 2016

MAYOR..... JOAN FOSTER
VICE MAYOR..... TRENEY TWEEDY
CITY MANAGER..... BONNIE SVRCEK
DIRECTOR OF PUBLIC WORKS..... GAYNELLE HART

LEGEND

CITY,TOWN OR VILLAGE
RIGHT OF WAY LINE
FENCE LINE
PROPERTY LINE
EXISTING SHOULDER LINE
WATER LINE
SANITARY SEWER LINE
GAS LINE
ELECTRIC UNDERGROUND CABLE
ELECTRIC OVER HEAD CABLE
OVERHEAD UTILITY CABLE
GUARD RAIL
BASE OR SURVEY LINE
CULVERTS
DROP INLET
TELEPHONE OR POWER POLES
HEDGE
TREES
HEAVY WOODS
WATERS OF THE U.S.

Denotes Existing Contours
Denotes Proposed Contours
Denotes Proposed Right of Way
Denotes Temporary Construction Easements
Denotes Permanent Drainage Easements
Denotes Permanent Utility Easements



NOT TO SCALE

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1	TITLE SHEET
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2A	DETAILS
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2C	LIGHT POLE DETAILS
3 THRU 3A	CONSTRUCTION, GRADING, & LIGHTING PLANS
4.01 THRU 4.08	SWM, WATER QUALITY, & ESC PLANS

REVISED

THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE CITY OF LYNCHBURG MANUAL OF SPECIFICATIONS & STANDARD DETAILS, THE VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) ROAD AND BRIDGE SPECIFICATIONS, THE VDOT ROAD AND BRIDGE STANDARDS, THE VDOT WORK AREA PROTECTION MANUAL, THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, AND THE VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS. IN THE EVENT OF CONFLICT BETWEEN ANY OF THESE STANDARDS, SPECIFICATIONS OR PLANS, THE MOST STRINGENT SHALL GOVERN.

COMMONWEALTH OF VIRGINIA
DONALD DEBERRY
Lic. No. 17180
11/01/16
PROFESSIONAL ENGINEER

McCORMICK TAYLOR

PROJECT MANAGER William "Clay" Simmons, P.E. (434) 455-4443
SURVEYED BY, DATE BERKLEY HOWELL & ASSOC. P.C. 11-16-2011
DESIGN BY McCormick Taylor, Inc. (804-762-5800)
SUBSURFACE UTILITY BY, DATE

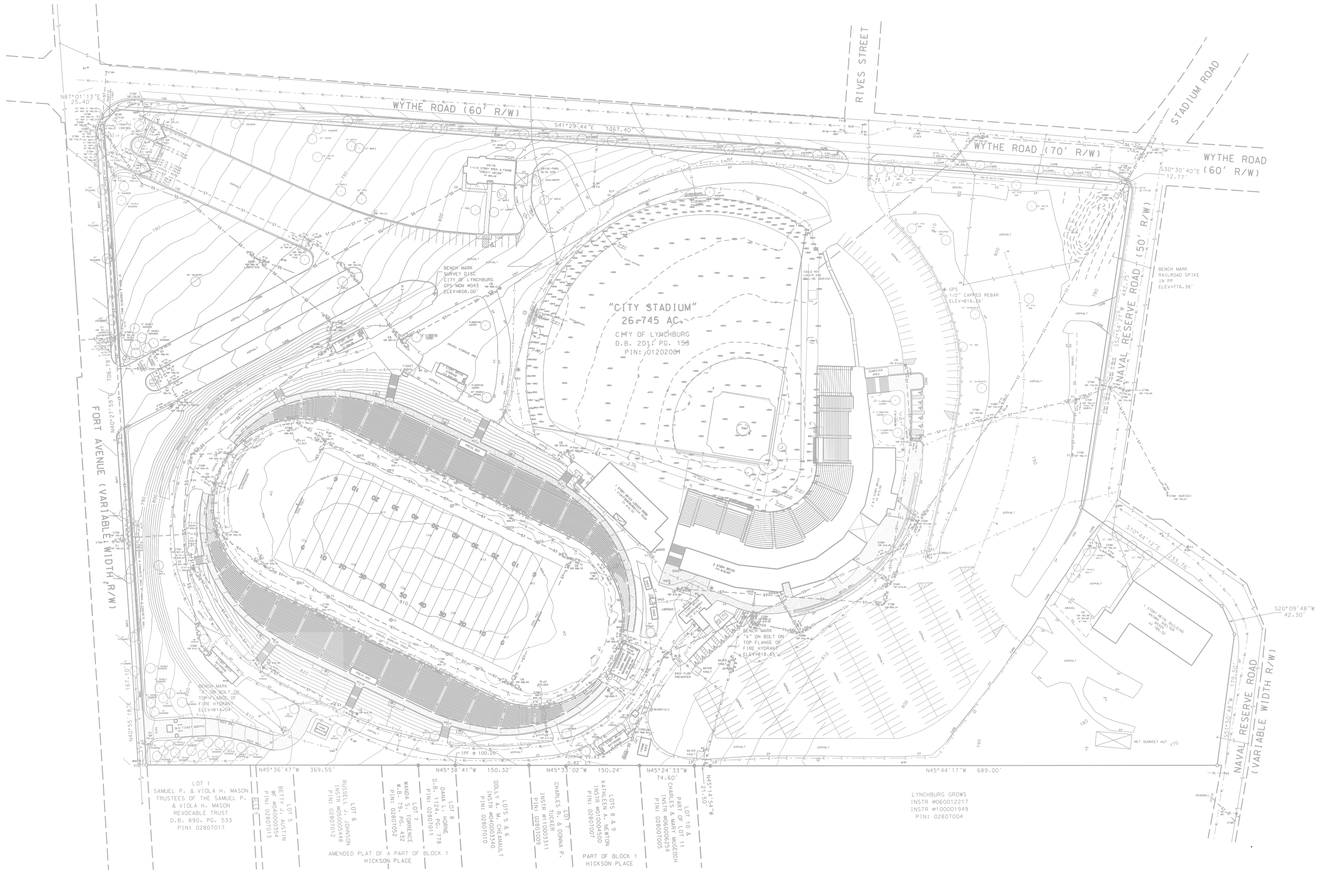
SURVEY ALIGNMENT DATA

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		STADIUM NEW PARKING	1A

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE ENGINEER

LEGEND

	IRON PIN SET
	IRON PIN FOUND (IPF) UNLESS OTHERWISE SHOWN
IP	IRON PIPE FOUND
R/W	RIGHT-OF-WAY
EP	EDGE OF PAVEMENT
EG	EDGE OF GRAVEL
C&G	CURB & GUTTER
FH	FIRE HYDRANT
WM	WATER METER
WV	WATER VALVE
WMH	WATER MANHOLE
	WATER LINE LOCATION
YH	YARD HYDRANT
I1	SMALL IRRIGATION HEAD
I2	LARGE IRRIGATION HEAD
TP	TELEPHONE PEDESTAL
TMH	TELEPHONE MANHOLE
	UNDERGROUND TELEPHONE LINE
EMH	ELECTRIC MANHOLE
EV	ELECTRIC VAULT
ELP	ELECTRIC PEDESTAL
ET	ELECTRIC TRANSFORMER
	STADIUM LIGHTS
	LIGHT POLE
	UTILITY POLE
DD	UTILITY POLE W/DUSK-TO-DAWN LIGHT
	OVERHEAD UTILITIES
	GUY WIRE
	UNDERGROUND ELECTRIC
EM	ELECTRIC METER
SSMH	SANITARY SEWER MANHOLE
	SANITARY SEWER CLEAN-OUT
	SANITARY SEWER LINE
II	INVERT IN
IO	INVERT OUT
STMH	STORM SEWER MANHOLE
DI	DROP INLET
CB	CATCH BASIN
	STORM SEWER LINE
SD	STORM DRAIN
FD	FIELD DRAIN
TC	TERRA COTTA PIPE
PVC	POLYVINYL CHLORIDE PIPE
	FENCE
	OUTFIELD FENCE
	CONCRETE
	GUARDRAIL
B	BOLLARD
	FIBER OPTIC LINE
FOV	FIBER OPTIC VAULT
	GAS LINE
GR	GAS REGULATOR
FP	FLAG POLE
	SPOT ELEVATION
	HANDICAP PARKING SPACE



NOTES:
1. THIS SURVEY HAS BEEN PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND DOES NOT NECESSARILY INDICATE ALL ENCUMBRANCES UPON THE TITLE.
2. BY GRAPHIC SCALING ONLY, THIS PROPERTY IS LOCATED IN ZONE "X" (NOT IN A DESIGNATED FLOOD AREA) ACCORDING TO THE F.E.M.A. FLOOD INSURANCE RATE MAP FOR THE CITY OF LYNCHBURG (#5100930043D) DATED JUNE 3, 2008. NO FIELD SURVEYING WAS PERFORMED TO MAKE THIS DETERMINATION.
3. THIS PLAT DOES NOT PURPORT TO ADDRESS THE EXISTENCE, DETECTION OR DELINEATION OF ANY ENVIRONMENTALLY SENSITIVE AREAS OR ANY ENVIRONMENTAL PROBLEMS LOCATED WITHIN THE PERIMETER OF THE PROPERTY SHOWN.
4. THIS PLAT HAS BEEN PREPARED FROM AN ACTUAL FIELD SURVEY DONE AS PER DATE OF THIS PLAT AND THERE ARE NO VISIBLE ENCROACHMENTS OR EASEMENTS EXCEPT AS SHOWN.
5. THIS TOPOGRAPHIC SURVEY OF CITY STADIUM WAS COMPLETED UNDER THE DIRECT AND RESPONSIBLE CHARGE OF KEVIN A. MERKEY, LS #2217 FROM AN ACTUAL GROUND SURVEY MADE UNDER MY SUPERVISION; THAT THE ORIGINAL DATA WAS OBTAINED ON OCTOBER 24, 2011; AND THAT THIS PLAT MEETS MINIMUM ACCURACY STANDARDS UNLESS OTHERWISE NOTED.
6. HORIZONTAL DATUM - NAD 83
   VERTICAL DATUM - NGVD 29
7. THE RIGHT-OF-WAY/BOUNDARY LINES ALONG WYTHE ROAD AND THE FIRST 442.75 FEET OF NAVAL RESERVE ROAD DO NOT MATCH RECORD INFORMATION IN THE CHAIN OF TITLE. THE LINES SHOWN REPRESENT ENGINEERING DRAWINGS AND ROAD PLANS OF RECORD WITH A FEW MODIFICATIONS TO EXCLUDE ANY ROAD IMPROVEMENTS IN THE BOUNDARY OF THE SURVEYED PROPERTY.
8. TOTAL PARKING SPACES - 286 INCLUDING 15 HANDICAP.
9. BUILDING SET BACKS: FRONT - 30 FEET
   SIDE - 8 FEET

SCALE	PROJECT	SHEET NO.
0 50' 100'	LYNCHBURG STADIUM	1A

PROJECT MANAGER William "Clay" Simmons, P.E. (434) 455-4443
SURVEYED BY, DATE BERKLEY HOWELL & ASSOC. P.C. 11-16-2011
DESIGN BY McCormick Taylor, Inc. (804-762-5800)
SUBSURFACE UTILITY BY, DATE

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		STADIUM NEW PARKING	2

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE ENGINEER

GENERAL NOTES

1. Work on this project shall conform to the latest editions of the City of Lynchburg Manual of Specifications & Standard Details, the Virginia Department of Transportation (VDOT) Road and Bridge Specifications, the VDOT Road and Bridge Standards, the VDOT Work Area Protection Manual, the Virginia Erosion and Sediment Control Handbook, and the Virginia Erosion and Sediment Control Regulations. In the event of conflict between any of these standards, specifications or plans, the most stringent shall govern.

2. The location of existing utilities as shown is approximate only. The contractor is responsible for locating all public or private utilities that lie in or adjacent to the construction site. The contractor shall be responsible for repairing, at his expense, all existing utilities damaged during construction. Forty-eight (48) hours prior to any excavation call Miss Utility 1 (800) 552-7001.

3. The Contractor shall verify all existing features shown on the survey and immediately notify the Engineer of any field conditions that differ from the existing features shown on the plans. Work done by the Contractor after his discovery of such discrepancies shall be done at the Contractor's risk.

4. Design features relating to construction or to regulation and control of traffic may be subject to change as deemed necessary by the City of Lyncburg.

5. The grade line denotes top of finished pavement unless shown otherwise on typical sections or plans.

6. The cost of removal and disposal of all existing items located in the areas to be graded, including, but not limited to the following, shall be included in the price bid for Earthwork: curb, curb & gutter, entrances, sidewalk, inlets, pipe, concrete slabs and foundations.

7. The borrow material for this project shall be a minimum CBR 10 or as approved by the Engineer.

8. The horizontal location of all drainage structures shown on these plans is approximate only, with the exception of structures showing specific stations, special design bridges and storm sewer systems.

9. The horizontal location and invert elevations shown for proposed culverts and storm sewer outfall pipes are based on existing survey data and required design criteria. If during construction, it is found that the horizontal location or invert elevations shown on plans differ significantly from the horizontal location or elevations of the stream or swale in which the culvert or storm sewer outfall pipe is to be placed, the Contractor shall confer with, and get approval from, the Engineer before installing the culvert or storm sewer outfall pipe.

10. The "H" dimension shown on plans for drop inlets and junction boxes and the "L.F." dimensions shown for manholes are for estimating purposes and are based on the proposed invert elevations shown for the structure and the anticipated top (rim) elevation based on existing or proposed finished grade. The actual "H" or "L.F." dimensions are to be determined by the contractor from field conditions.

11. All pipe on this project shall be concrete. For strength, sheet thickness, or class designation; available sizes; height of cover limitations; and other restrictions for a particular pipe type or height cover, see applicable sections of the VDOT Road and Bridge Standards PC-1.

12. Where open joint pipe is to be used, no joint shall be opened a distance exceeding 25% of the spigot length. Sealing of the pipe joint shall be in accordance with Section 302 of the applicable VDOT Road and Bridge Specifications.

13. A pipe joint length different from that stated on the plans may be used. An adjustment in the percentage of open joint (not to exceed 25% of the spigot length) or amount of bevel shall be made that will obtain the radius stated on the plans. Extra payment for this adjustment will not be allowed. The proposed adjustment shall be approved by the Engineer prior to installation of the pipe line.

14. The proposed riprap may be omitted by the Engineer if the slope designated for placement of riprap is found to be comprised of solid rock or closely consolidated boulders with soundness, size and weight equal to, or exceeding, the specifications for proposed riprap.

15. All existing drainage facilities labeled "To Be Abandoned" shall be left in place, backfilled and plugged in accordance with the VDOT Road and Bridge Standard PP-1. The cost incidental to this and the Flowable Backfill shall be included in the contract price for other items.

16. Existing drainage facilities being utilized as a part of the drainage system, and designated on the plans "To Be Cleaned Out" shall be cleaned as directed by the Engineer. The cost incidental to this shall be included in the contract price for other items.

17. Proposed drop inlets with a height (H) less than the standard minimum shown in the VDOT Road and Bridge Standards shall be considered and paid for as Standard Drop Inlets for the type specified.

18. All pavement, stone, base, and saw cut required to install the new curbing shall be paid as incidental to the curb cost.

19. Clearing and grubbing shall be confined to those areas needed for construction. No trees or shrubs in ungraded areas shall be cut without the permission of the Engineer.

20. All pavement markings and traffic flow arrows shown on the roadway construction plans are schematic only. The actual location and application of pavement markings shall be in accordance with Section 704 of the applicable VDOT Road and Bridge Specifications, MUTCD, sequence of construction/traffic control plans, pavement marking on plan Sheet 8 and as directed by the Engineer.

21. The following sources, under contract with the City of Lynchburg, have provided information on this project:

Hydraulic Design - EPR, P.C.
Roadway Design - McCormick Taylor, Inc.
Utility Design - N/A
Utility Designation - MISS UTILITY and City
Survey - Berkley-Howell & Associates, and P.C. Perkins & Orrison, Inc.

If questions or problems arise during construction, please contact the City of Lynchburg attn: Clay Simmons DPWD 434-455-4450. DO NOT CONTACT THE OUTSIDE SOURCES.

22. The temporary erosion and siltation control items shown on the plans are intended to provide a general plan for controlling erosion and siltation within the project limits. The Erosion & Sediment Control (ESC) Plan is based on field conditions at the time of plan development and an assumed sequence of construction for the project. The contractor, in conjunction with the Project Engineer and/or Environmental Monitor, shall adjust the location, quantity and type of erosion and sediment control items required based on the actual field conditions encountered at the time of construction and the actual scheduling and sequencing of the construction activities. Significant changes to the proposed ESC Plan (e.g., those that require emergency analysis) shall be submitted to the City of Lynchburg for review and approval. Any changes to the proposed ESC Plan must be noted on a designated plan set (Record Set) which shall be retained on the project site and made available upon request.

23. The areas beyond the project's construction area are to be protected from siltation in accordance with the Virginia Erosion and Sediment Control Handbook. Perimeter controls such as filter barrier, silt fence, diversion dikes, turbidity curtains, etc. shall be installed prior to any grubbing operations or other earth moving activities.

24. Rock for Check Dams, Drop Inlet Silt Traps, Erosion Control Stone and Riprap shall be in accordance with Section 203 and Section 414 of the applicable VDOT Road and Bridge Specifications.

25. All disturbed areas shall be fertilized and seeded with the applications as follows until a suitable stand of grass is obtained and approved by the Engineer.

Fertilizer (10-10-10) @ 1000 lb/acre or Approved Equivalent
Ground Limestone @ 1 ton/acre
Grass Seed (Ky. 31 Fescue) @ 150 lb/acre
Mulch (Straw or Approved Equivalent) @ 400 lb/acre

If construction takes place between November 1 and April 1, an additional 150 lb/acre of Rye grass is required.

26. Items depectided as NIC are not included in Contract.

27. All seeded and landscaped areas shall be watered with a minimum of 1/2 rainfall equivalent every 3 days from installation until first hard freeze. This water will be supplied and paid for by the contractor and should be included in the bid item for the individual seed and landscape items if bid separately or in the mobilization item if bid lump sum.

28. All seeding and landscaping will be guaranteed by the contractor from 1 year of installation.

29. All old lighting poles, bases, and wiring that is being replaced by new lighting shall be demoed and removed by contractor with the cost being incidental to the pole bases and conduit.

30. Contractor shall complete an As-Built Survey of all stormwater features on site (per Lynchburg City Standards) upon completion of project and prior to release of bond.

31. Per section 35.2-34.2 Interpretation of Tables of Authorised Land Uses. These plans are not intended to meet all City code requirements.

(b) City Uses. Use of land or facilities owned or leased by, or subject to easements granted to the City of Lynchburg shall not be subject to the use limitations established in this Zoning Ordinance. As a matter of policy, the City will endeavor to comply with standards applicable to similar uses.

32. Bike rack description. This item shall include furnishing, assembling, and installing a bicycle rack or rack system in accordance with the contract documents and as directed by the project engineer.

Materials.
Portland Cement Concrete, Mix #2.
Bicycle rack or rack system shall be as manufactured by:

Dero bike racks
Hoop Rack
Hot-dipped galvanized finish

1429 Washing Ave. South
Minneapolis, Mn 55454-1000
(888)337-6729
http://www.dero.com

Ireative pipe, inc.
Inverted U Racks Model SU
Hot-dipped galvanized finish

P.O. Box 2458
Rancho Mirage, California 92270-1087
(800)644-8467
http://www.creativepipe.com

Madrax, inc.
U_Two Rack Series
Hot-dipped galvanized finish

2210 Pinehurst Drive
Middletown, Wisconsin 53562
(800)448-7931
http://www.madrax.com

Or equal as approved by the project engineer. the ribbon bicycle rack or rack system shall be minimum of schedule 40 steel pipe and must accommodate a minimum of 10 (ten) bicycles. the design of the rack must support bicycles in an upright position and must allow bicycles to be secured by the rider.

Construction. the bicycle rack or rack system shall be installed as per the manufacturer s instructions and to the project engineer s satisfaction. the units are to be installed using an embedded mounts per the manufacturer specifications and approved by the project engineer.

The exact location of the bicycle rack or rack system shall be as shown on the plans or determined in the field by the project engineer, based upon the model selected.

Measurement and payment. bicycle rack shall be paid for as per lump sum complete and in place. the contract unit price bid for lump sum shall be full compensation for all materials, submittals, tools, labor, and incidentals necessary to complete the work as specified.

	PROJECT	SHEET NO.
	LYNCHBURG STADIUM	2

PROJECT MANAGER William "Clay" Simmons, P.E. (434) 455-4443
SURVEYED BY, DATE BERKLEY HOWELL & ASSOC. P.C. 11-16-2011
DESIGN BY McCormick Taylor, Inc. (804-762-5800)
SUBSURFACE UTILITY BY, DATE

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		STADIUM NEW PARKING	2A

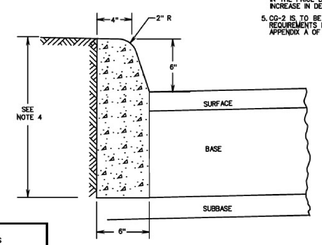
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE ENGINEER

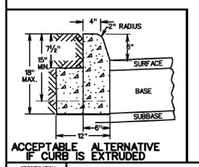
DETAILS

CG-2

NOTES:

1. THIS ITEM MAY BE PRECAST OR CAST IN PLACE.
2. CONCRETE TO BE CLASS A3 IF CAST IN PLACE, 4000 PSI IF PRECAST.
3. CURB HAVING A RADIUS OF 300 FEET, OR LESS (ALONG FACE OF CURB) WILL BE PAID FOR AS RADIAL CURB.
4. THE DEPTH OF CURB MAY BE REDUCED AS MUCH AS 3" (15" DEPTH) OR INCREASED AS MUCH AS 3" (21" DEPTH) IN ORDER THAT THE BOTTOM OF CURB WILL COINCIDE WITH THE TOP OF A COURSE OF THE PAVEMENT SUBSTRUCTURE. OTHERWISE THE DEPTH IS TO BE 18" AS SHOWN. NO ADJUSTMENT IN THE PRICE BID IS TO BE MADE FOR A DECREASE OR AN INCREASE IN DEPTH.
5. CG-2 IS TO BE USED ON ROADWAYS MEETING THE REQUIREMENTS FOR CG-6 AS SHOWN IN APPENDIX A OF THE VDOT ROAD DESIGN MANUAL.



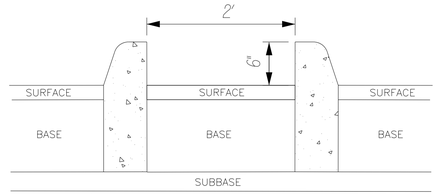


ACCEPTABLE ALTERNATIVE IF CURB IS EXTRUDED

SPECIFICATION REFERENCE
105
502

STANDARD 6" CURB
VIRGINIA DEPARTMENT OF TRANSPORTATION
REV. 9/06
201.01

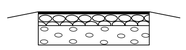
CURB CUT DETAIL
NTS



NOTES:

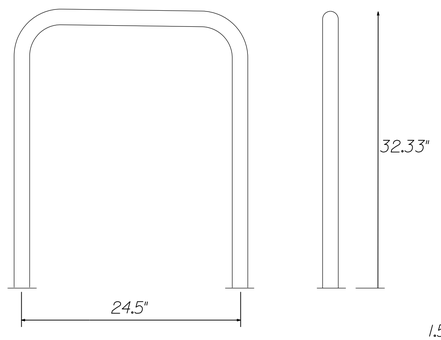
1. See Standard 6" Curb Detail for additional information.

NEW PARKING Asphalt Detail



1.5" Asphalt Conc. Surface Course SM-9.5AL or SM-9.5D
3" Asphalt Conc. Base Course BM-25.0
6" Aggr. Base Mat'l. Ty. I No. 21A or 21B
Install & compact sub-grade per appropriate VDOT & City spec.

DETAIL A
GALVANIZED BICYCLE RACK



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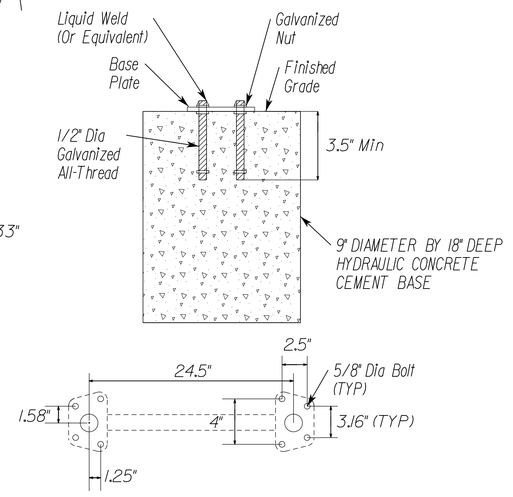

NOT TO SCALE	PROJECT LYNCHBURG STADIUM	SHEET NO. 2A

PROJECT MANAGER William "Clay" Simmons, P.E. (434) 455-4443
SURVEYED BY, DATE BERKLEY HOWELL & ASSOC. P.C. 11-16-2011
DESIGN BY McCormick Taylor Inc. (804-762-5800)
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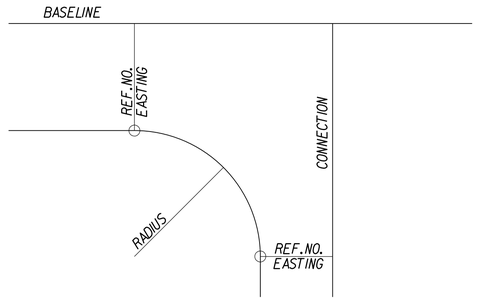
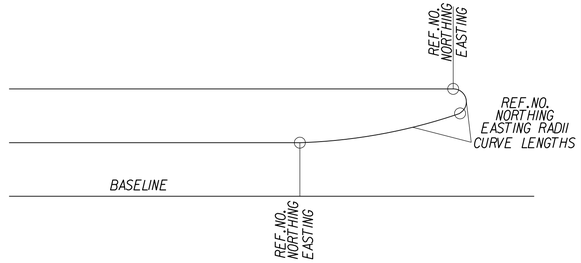
REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		STADIUM NEW PARKING	2B

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE ENGINEER

RADIAL OFFSETS / BULLET NOSE DATA





POINT	NORTHING	EASTING	RADIUS (FT)	CURVE LENGTH (FT)	POINT	NORTHING	EASTING	RADIUS (FT)	CURVE LENGTH (FT)
1	3666767.028	11289445.180	5.0	11.0	51	3666765.497	11289655.010	2.0	9.3
2	3666775.532	11289447.800	5.0	11.0	52	3666766.522	11289660.800	2.0	9.3
3	3666777.306	11289457.820	2.0	3.1	53	3666773.699	11289664.400	5.0	6.4
4	3666775.686	11289460.140	2.0	3.1	54	3666807.260	11289647.460	5.0	6.4
5	3666736.086	11289476.910	5.0	4.7	55	3666809.931	11289642.120	5.0	3.1
6	3666734.743	11289481.280	5.0	4.7	56	3666809.379	11289639.010	5.0	3.1
7	3666734.993	11289482.690	2.0	3.1	57	3666807.061	11289637.390	2.0	5.1
8	3666737.311	11289484.310	2.0	3.1	58	3666774.718	11289690.760	2.0	5.1
9	3666706.863	11289506.890	5.0	11.0	59	3666780.155	11289688.020	15.0	24.5
10	3666715.367	11289509.500	5.0	11.0	60	3666707.772	11289730.500	15.0	24.5
11	3666664.109	11289516.360	212.5	3.1	61	3666685.708	11289743.550	2.0	3.1
12	3666716.986	11289518.650	212.5	3.1	62	3666684.088	11289745.860	2.0	3.1
13	3666715.365	11289520.970	2.0	4.7	63	3666772.582	11289695.030	4.0	3.1
14	3666675.921	11289538.620	2.0	4.7	64	3666772.613	11289695.210	4.0	3.1
15	3666674.578	11289542.980	5.0	3.1	65	3666710.090	11289732.120	2.0	9.3
16	3666674.828	11289544.390	5.0	3.1	66	3666750.861	11289710.020	2.0	9.3
17	3666677.146	11289546.020	2.0	12.5	67	3666774.962	11289697.000	2.0	3.1
18	3666647.675	11289580.420	2.0	12.5	68	3666751.499	11289713.620	2.0	3.1
19	3666657.073	11289581.780	5.0	3.1	69	3666749.878	11289715.940	2.0	24.5
20	3666659.039	11289592.890	5.0	3.1	70	3666800.683	11289695.460	2.0	24.5
21	3666657.418	11289595.210	2.0	3.6	71	3666626.141	11289820.100	2.0	3.1
22	3666628.271	11289652.520	2.0	3.6	72	3666628.459	11289821.720	2.0	3.1
23	3666630.615	11289654.620	2.0	9.3	73	3666655.281	11289824.080	2.0	3.1
24	3666743.685	11289706.430	2.0	9.3	74	3666653.660	11289826.400	2.0	3.1
25	3666707.000	11289726.140	1.5	1.9	75	3666696.638	11289816.760	2.0	3.1
26	3666707.801	11289724.540	1.5	1.9	76	3666698.956	11289818.380	2.0	3.1
27	3666684.783	11289738.320	1.5	2.8	77	3666724.209	11289811.880	2.0	3.1
28	3666682.630	11289737.240	1.5	2.8	78	3666722.588	11289814.200	2.0	3.1
29	3666644.202	11289756.630	4.0	4.1	79	3666765.566	11289804.560	2.0	3.1
30	3666642.013	11289759.930	4.0	4.1	80	3666767.884	11289806.180	2.0	3.1
31	3666644.357	11289762.040	2.0	3.1	81	3666792.218	11289794.490	2.0	3.1
32	3666640.364	11289716.870	2.0	3.1	82	3666790.598	11289796.810	2.0	3.1
33	3666638.744	11289719.190	2.0	9.3					
34	3666639.735	11289724.790	2.0	9.3					
35	3666646.911	11289728.380	5.0	6.4					
36	3666676.744	11289713.330	5.0	6.4					
37	3666679.414	11289707.990	5.0	3.1					
38	3666678.562	11289703.170	5.0	3.1					
39	3666676.244	11289701.550	2.0	3.0					
40	3666603.253	11289687.050	2.0	3.0					
41	3666604.895	11289684.890	2.0	3.1					
42	3666702.246	11289687.810	2.0	3.1					
43	3666700.625	11289690.130	2.0	9.3					
44	3666701.264	11289693.740	2.0	9.3					
45	3666708.441	11289697.330	5.0	6.4					
46	3666742.002	11289680.390	5.0	6.4					
47	3666744.673	11289675.060	5.0	3.1					
48	3666744.352	11289673.250	5.0	3.1					
49	3666742.034	11289671.630	2.0	3.1					
50	3666767.118	11289652.690	2.0	3.1					

SCALE	PROJECT	SHEET NO.
0 25' 50'	LYNCHBURG STADIUM	2B

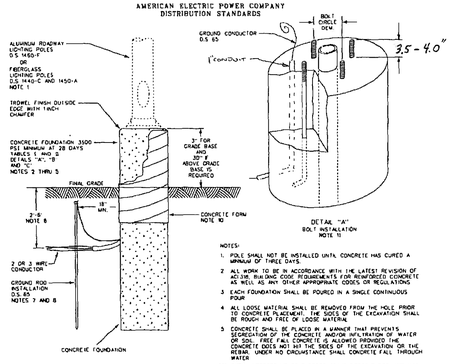
PROJECT MANAGER William "Clay" Simmons, P.E. (434) 455-4443
SURVEYED BY, DATE BERKLEY, HOWELL, & ASSOC. P.C. 11-16-2011
DESIGN BY McCormick Taylor, Inc. (804-762-5800)
SUBSURFACE UTILITY BY, DATE

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		STADIUM NEW PARKING	2C

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE ENGINEER

DETAILS

AMERICAN ELECTRIC POWER COMPANY
DISTRIBUTION STANDARDS



NOTES:

1. POLE SHALL NOT BE INSTALLED UNTIL CONCRETE HAS CURED A MINIMUM OF THREE DAYS.
2. ALL WORK TO BE IN ACCORDANCE WITH THE LATEST REVISION OF ACI 318, BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE AS WELL AS ANY OTHER APPROPRIATE CODES OR REGULATIONS.
3. EACH FOUNDATION SHALL BE POURED IN A SINGLE CONTINUOUS POUR.
4. ALL LOOSE MATERIAL SHALL BE REMOVED FROM THE HOLE PRIOR TO CONCRETE PLACEMENT. THE SIDES OF THE EXCAVATION SHALL BE ROUGH AND FREE OF LOOSE MATERIAL.
5. CONCRETE SHALL BE PLACED IN A MANNER THAT PREVENTS SEGREGATION OF THE CONCRETE AND/OR INFILTRATION OF WATER OR SOIL. FREE FALL CONCRETE IS ALLOWED PROVIDED THE CONCRETE DOES NOT HIT THE SIDES OF THE EXCAVATION OR THE REBAR. UNDER NO CIRCUMSTANCE SHALL CONCRETE FALL THROUGH WATER.
6. BURY UNDERGROUND CONDUCTORS 30" IF DIRECT BURIED AND 24" IF IN CONDUIT.
7. GROUND RODS ARE TO BE DRIVEN TO THE DEPTH SHOWN UNLESS ROCK OR OTHER OBSTRUCTIONS ARE ENCOUNTERED. RESISTANCE OF INDIVIDUAL GROUND LOCATIONS SHOULD BE LOWERED TO PRACTICAL VALUES. ADDITIONAL GROUND RODS MAY BE DRIVEN (NO MORE THAN THREE AT ANY SINGLE LOCATION).
8. GROUNDING CONDUCTOR SHALL BE CONNECTED TO GROUNDING STUD OF METALLIC POLES IN VICINITY OF HANDHOLE AND TO FIXTURES GROUNDING LUG.
9. FOR SOIL CLASSIFICATION DETAILS, REFER TO O.S. 220.
10. FORM FOR CONCRETE FOUNDATION SHALL BE MADE FROM SONOTUBE OR SIMILAR MATERIAL. FORM SHALL EXTEND MINIMUM OF 12" BELOW GRADE.
11. REFER TO POLE MANUFACTURER'S INSTRUCTIONS FOR PLACEMENT OF ANCHOR BOLTS AND TORQUE REQUIREMENTS. POLE MANUFACTURER TO SUPPLY TEMPLATE AND ANCHOR BOLTS.
12. SIZE CONDUIT FOR CONDUCTORS. TWO CONDUITS MAY BE INSTALLED IF CONDUCTOR LOOPS THROUGH FOUNDATION.
13. FORM HORIZONTAL REBAR IN RING OF 12" DIAMETER FOR 18" DIAMETER FOUNDATION AND 16" FOR 24" FOUNDATION.
14. HORIZONTAL TIES SHALL BE TIED TO VERTICAL REINFORCEMENT WITH STANDARD REINFORCEMENT TIE WIRE.

TABLE I
CONCRETE FOUNDATION LENGTH
NOTE 9

FOUNDATION DESIGN	DIAMETER (INCHES)	GRADE BASE FOUNDATION LENGTH (FEET)		ABOVE GRADE BASE FOUNDATION LENGTH (FEET)	
		SOIL CLASSIFICATION		SOIL CLASSIFICATION	
		HARD OR NORMAL	SOFT	HARD OR NORMAL	SOFT
A	18	4	5	7	
B	18	5	6	8	
C	24	5	6	7	8
D	24	6	7	9	
E	24	8	8	9	10

JULY 15, 2002

CONCRETE FOUNDATION

D.S. 1435
PAGE 1 OF 2

AMERICAN ELECTRIC POWER COMPANY
DISTRIBUTION STANDARDS

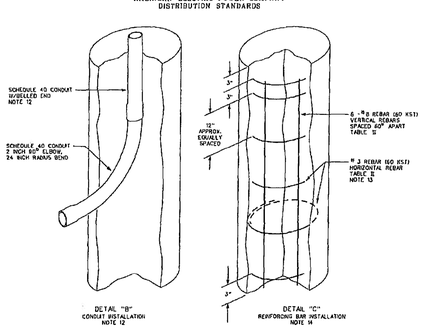


TABLE II
FOUNDATION REBAR INFORMATION

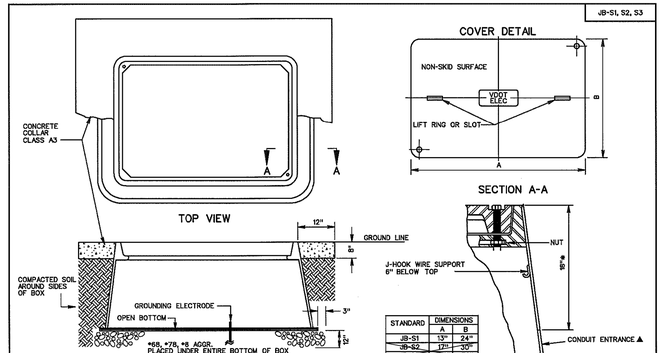
FOUNDATION SIZE		CUBIC YARDS OF CONCRETE	#8 REBAR (60 KSI) VERTICAL REINFORCEMENT REBAR		#3 REBAR (60 KSI) HORIZONTAL REINFORCEMENT REBAR		
DIAMETER (INCHES)	LENGTH (FEET)		LENGTH (FT-IN)	WEIGHT (LBS)	QUANTITY	LENGTH (FT-IN)	WEIGHT (LBS)
X	4	0.26	3'-6"	34	5	4'-2"	8
	5	0.33	4'-6"	43	6		9
	6	0.39	5'-8"	52	7		11
	7	0.46	6'-8"	59	8		13
	8	0.52	7'-8"	68	9		14
24	5	0.51	4'-8"	43	8	6'-8½"	12
	6	0.70	5'-8"	50	7		13
	7	0.81	6'-8"	59	8		17
	8	0.93	7'-8"	68	9		19
	9	1.05	8'-8"	77	10		21
	10	1.16	9'-8"	88	11		24

JULY 15, 2002

CONCRETE FOUNDATION

D.S. 1435
PAGE 2 OF 2

JB-S1, S2, S3



STANDARD	DIMENSIONS	
	A	B
JB-S1	13"	24"
JB-S2	17½"	30"
JB-S3	24"	36"

NOTES:

JUNCTION BOXES MAY BE STRAIGHT OR FLARED WALL IN DESIGN. MATERIALS SHALL CONFORM TO SECTION 238 OF THE ROAD & BRIDGE SPECIFICATIONS.

BELL ENDS SHALL BE INSTALLED ON THE ENDS OF PVC CONDUITS.

GROUNDING BUSHINGS SHALL BE INSTALLED ON THE ENDS OF METAL CONDUITS.

BELL ENDS AND BUSHINGS SHALL BE PLUGGED TO PREVENT MOISTURE AND RODENT ENTRY.

*DEPTH OF CONDUIT ENTRANCE FOR USE OF MAGNETIC DETECTORS SHALL BE IN ACCORDANCE WITH STANDARD TD-2.

CONDUIT ENTRANCES SHALL BE LOCATED AS SHOWN ON THE PLANS.

THE COVER SHALL HAVE A NON-SKID SURFACE WITH LETTERS CAST IN THE DEPRESSION ON TOP. THE LETTERS "VDOT ELEC", "VDOT TRAF", "VDOT COMM" OR UTILITY AS APPLICABLE ARE TO BE 1" WIDE. COVERS USED FOR JUNCTION BOXES INSTALLED WITHIN MUNICIPALITIES SHALL NOT REQUIRE THE VDOT REFERENCE.

ALL JUNCTION BOXES SHALL BE INSTALLED WITH A GROUNDING ELECTRODE

TWO RECESSED ⅜" HEX HEAD BOLTS ARE REQUIRED FOR EACH COVER.

▲ A MINIMUM 2" DIAMETER CONDUIT ENTRANCE IS REQUIRED, UNLESS OTHERWISE SPECIFIED ON THE PLANS.

J-HOOK WIRE SUPPORTS SHALL BE SECURELY ATTACHED TO THE JUNCTION BOX WITH A BOLT AND NUT WITH A NEOPRENE WASHER OR AN EXPANSION FITTING.

CONDUITS SHALL EXTEND 2" TO 3" MAX. INTOTHE INSIDE WALL OF THE JUNCTION BOX.

THE JUNCTION BOX MAY BE A TWO PIECE DESIGN WITH THE TOP SECTION NO LESS THAN 17" IN DEPTH.

VOIDS RESULTING FROM ENTRANCE OF CONDUITS INTO JUNCTION BOXES SHALL BE COMPLETELY FILLED WITH AN APPROVED MATERIAL.

INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF SECTION 700 OF THE ROAD & BRIDGE SPECIFICATIONS.

SPECIFICATION REFERENCE	JUNCTION BOX FOR NON-DELIBRATE TRAFFIC USE	VDOT ROAD AND BRIDGE STANDARDS
700 238	VIRGINIA DEPARTMENT OF TRANSPORTATION	REVISION DATE: SHEET 1 OF 1
		1317.20

FEATURES & SPECIFICATIONS

CONSTRUCTION - Welds conform to applicable AWS structural welding code. Pole shaft is one piece, low carbon alloy steel per ASTM A595, Grade A or ASTM A500, Grade C with 50,000-PSI minimum yield strength. Pole base shall be per ASTM A36 and shall telescope pole shaft and be circumferentially welded top and bottom. Hand hole is 2" x 4" minimum, cover and fasteners are included. Base covers shall be two piece, interlocking construction. Finish shall match pole. Removable pole cap shall be provided with each drill pattern type pole. Non-structural fasteners shall be stainless steel.

FINISH – Galvanized poles per ASTM A123. Painted poles shall be semi-gloss powder paint.

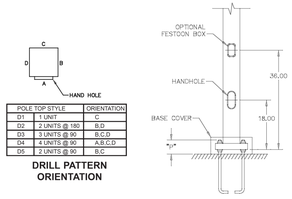
GROUNDING – Grounding provision shall be immediately accessible through hand hole, ½-13 threads.

ANCHOR BOLTS – Steel anchor bolts shall be per AASHTO M314 or ASTM F 1554 - Grade 55, hot dip galvanize. Nuts and washers shall be per AASHTO M314-90 or ASTM F 1554 – hot dip galvanized.

Catalog Number	
Order Number	Type

SSS

SQUARE STRAIGHT STEEL POLES



POLE TOP STYLE	ORIENTATION
D1	1 UNIT C
D2	2 UNITS @ 180 B,D
D3	3 UNITS @ 90 B,C,D
D4	4 UNITS @ 90 A,B,C,D
D5	2 UNITS @ 90 B,C

DRILL PATTERN ORIENTATION

POLE ORDERING DATA

How to construct a catalog number for SSS poles:
EXAMPLE SSS2555C D1 R3 BZ 1 Fill in Catalog Number _____ ___ ___ ___ ___
1 2 3 4 5

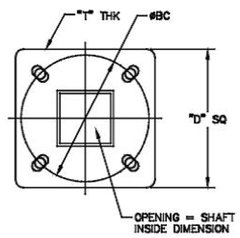
STEP	CATALOG NUMBER	DESCRIPTION
1. BASE POLE	(SEE SHEET 2)	SQUARE STRAIGHT STEEL
2. POLE TOP STYLE	D1	DRILLING FOR 1 UNIT
	D2	DRILLING FOR 2 UNITS @ 180
	D3	DRILLING FOR 3 UNITS @ 90
	D4	DRILLING FOR 4 UNITS @ 90
	D5	DRILLING FOR 2 UNITS @ 90
	P2	TENON, 2.38 O.D. X 4" LG.
	P3	TENON, 3.50 O.D. X 6" LG.
	P4	TENON, 4.50 O.D. X 6" LG.
	P5	TENON 2.88 O.D. X 4" LG.
3. POLE TOP DRILL PATTERN	H1	PARKPACK, HORZ NO ARM
	H3	PARKPACK, HORZ WITH ARM
	J4	MIRROSTAR ONLY
	R2	MOD 600 & SOMERSET ONLY
	R3	MONGOOSE ONLY
	T3	POLESTAR ONLY
	W5	PARKPACK, VERT NO ARM
	ND	NO DRILL PATTERN
	AF1	AEL 53
	AF2	AEL 153
	AF3	AEL LS, LM
	AF5	AEL AVL W/A-OPTION
	AF6	AEL ASA & AVL
4. FINISH	BK	BLACK PAINT
	BZ	BRONZE PAINT
	GN	GREEN PAINT
	GR	GRAY PAINT
	HG	HOT DIP GALVANIZED
	PP	PRIME PAINT
	WH	WHITE PAINT
5. OPTIONS	1	FESTOON BOX
	3	TAMPER RESISTANT SCREWS
	4	VIBRATION DAMPENER

NOTES:
1. Pole top drill pattern types H1 - W5 are available on drilled pole tops only. ND is only available on tenon pole tops.
2. The Festoon Box is located on the same side as the hand hole, 36" above pole base. Receptacle / Cover are not included.

HOLOPHANE®

SSS.PMD (HL-2079) 5/20/13

SSS Square Straight Steel Poles					NON-AASHTO Rating							
					90 mph + 1.14 gust		100 mph + 1.14 gust		100 mph + 1.14 gust			
Ref. Item No.	Base Pole Number	Nominal Pole Height	Nominal Shaft Size & Wall Thickness	EPA Vertical Offset from Top of Pole	Max EPA	Max Wt.	Max EPA	Max Wt.	Max EPA	Max Wt.	Bolt Circle Dia.	Anchor Bolt Size
3	SSS3055C	30	5.0 Square x 11 Ga	0"	4.7	140	2	50	na	na	11	.75 x 17 +3
				30"	4.4	110	1.6	40	na	na		



BASE DETAIL

Ref. Item No.	Bolt Circle Dia.	Min. Base Size "D"	Base Thk. "T"	Bolt Projection	Anchor Bolt Set	Bolt Circle Template
3	11	11	1	3.50 - 4.00	AB-26-4	TMP-45

LIGHTING PLAN GENERAL NOTES & QUANTITIES

1. Aep Will Provide And Install All Light Poles, Luminaires And Conductor Cable. Contractor Shall Provide And Install All Remaining Items Such As Pole Foundations, Junction Boxes And Conduits.
2. The Contractor Shall Field Verify Anchor Bolts And Patterns And Foundations With Aep Prior To Installing Lighting Pole Foundations.
3. All Luminaires Shall Be Fused In The Transformer Base, Handhole, Fusebox, Or Nearest Junction Box By Aep.
4. Conduits And Junction Boxes Shown On These Plans Are Diagrammatic And Actual Conduit Runs And Junction Box Locations Shall Conform To The Field Conditions.
5. Certain Utilities Within The Vicinity Of This Project Area Are Shown On The Plans. The Utilities Shown Are Not Guaranteed To Be Complete Or Accurately Located. The Contractor Is Responsible For Locating All Existing Utilities And Lighting Systems Before Proceeding With Work.
6. At Locations Where Proposed Conduit Shall Cross Existing Conduit, The Contractor Shall Hand Dig The Trench And Shall Take Adequate Care Not To Damage The Existing Conduit Or The Contents Thereof. These Conditions Shall Apply At All Such Conduit Crossings Except Those Locations Where Proposed Conduit Will Cross Conduit Designated To Be Abandoned.
7. Conduit Shall Be Installed With Large Radius Offsets (5' Minimum Radius) To Bypass Drainage Inlets, Manholes, And Other Obstructions.
8. The Location Of The Light Pole Foundation Grounding Rod Shall Be Marked On The Top Surface Of The Foundation By A Recessed Arrow And Initial "G" Formed In The Concrete. The Ground Rod Shall Typically Be Placed To The Left Of The Lighting Pole Foundation As Observed From The Pole Handhole.
9. Conductors In Junction Boxes, Manholes, And All Equipment Enclosures Shall Be Neatly Arranged And Laced With Approved Cable Ties.
10. Where Conductor Cables Terminate In Junction Boxes Or Lighting Standards, They Shall Be Tested And Capped With 3 Ft. Of Slack Per Conductor.
11. Locations Of Existing Junctions Boxes And Manholes Shown On The Plans Are Approximate.
12. Areas Around Cabinets, Junction Boxes And Manholes On Slopes Shall Be Graded As Approved By The Engineer.
13. The Contractor Shall Coordinate Electrical Service With The Engineer And With Aep.
14. All Underground Conduits Shall Be Sloped To Drain Junction Boxes Or Manholes. If This Cannot Be Accomplished, They Shall Be Provide With Drainage Tees At The Low Points Of Conduits.
15. All Junction Boxes And Manholes Shall Be Provided With A Means For Drainage.

NOT TO SCALE	PROJECT: LYNCHBURG STADIUM	SHEET NO.: 2C

10/10/2016
9:55:30 AM

Stadium_003.dgn
Plotted By: localuser

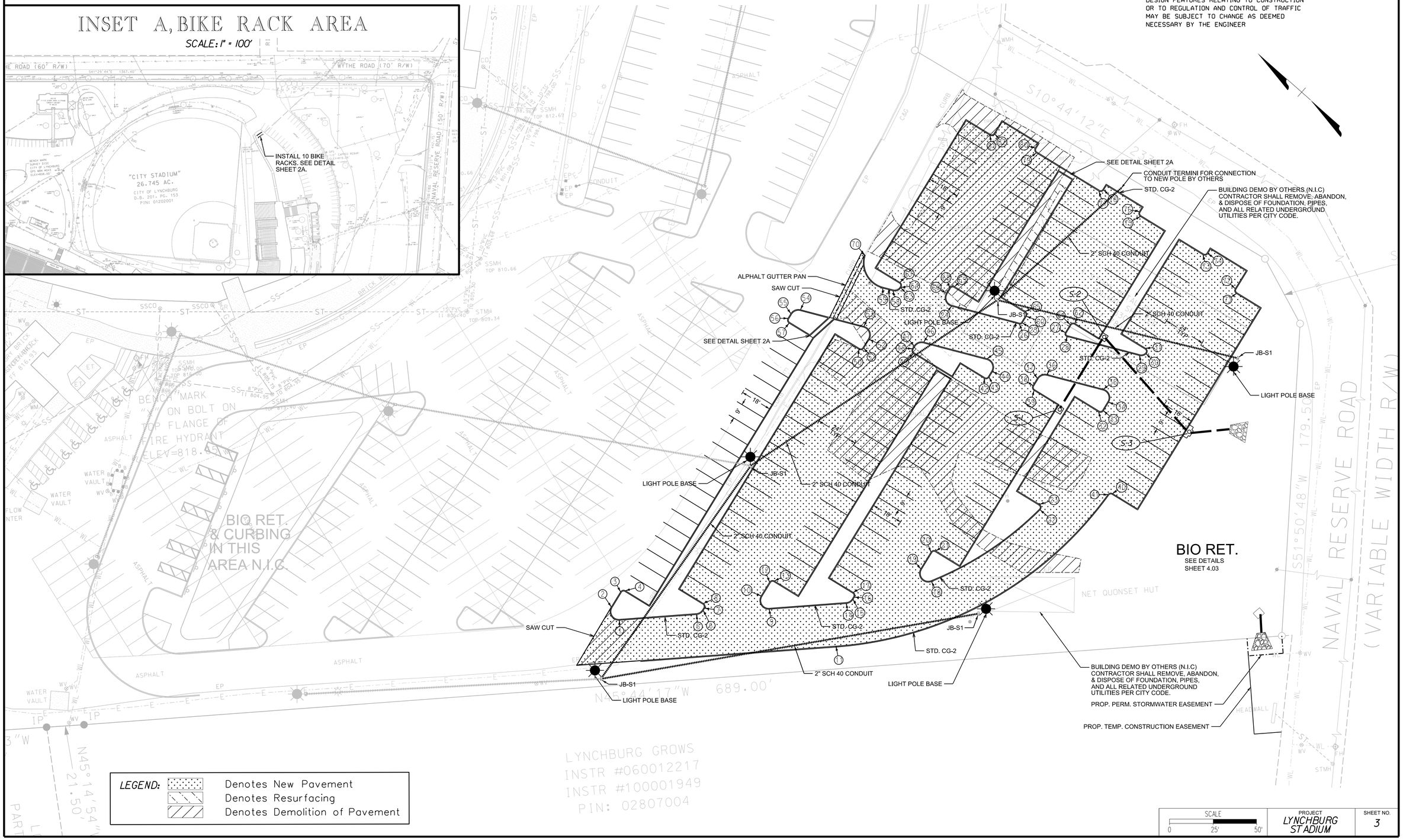
PROJECT MANAGER William "Clay" Simmons, P.E. (434) 455-4443
SURVEYED BY, DATE BERKLEY HOWELL & ASSOC. P.C. 11-16-2011
DESIGN BY McCormick Taylor, Inc. (804-762-5800)
SUBSURFACE UTILITY BY, DATE

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		STADIUM NEW PARKING	3

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE ENGINEER

INSET A, BIKE RACK AREA

SCALE: 1" = 100'



LEGEND:
- Denotes New Pavement
- Denotes Resurfacing
- Denotes Demolition of Pavement

SCALE	PROJECT	SHEET NO.
0 25' 50'	LYNCHBURG STADIUM	3

10/10/2016
9:55:37 AM

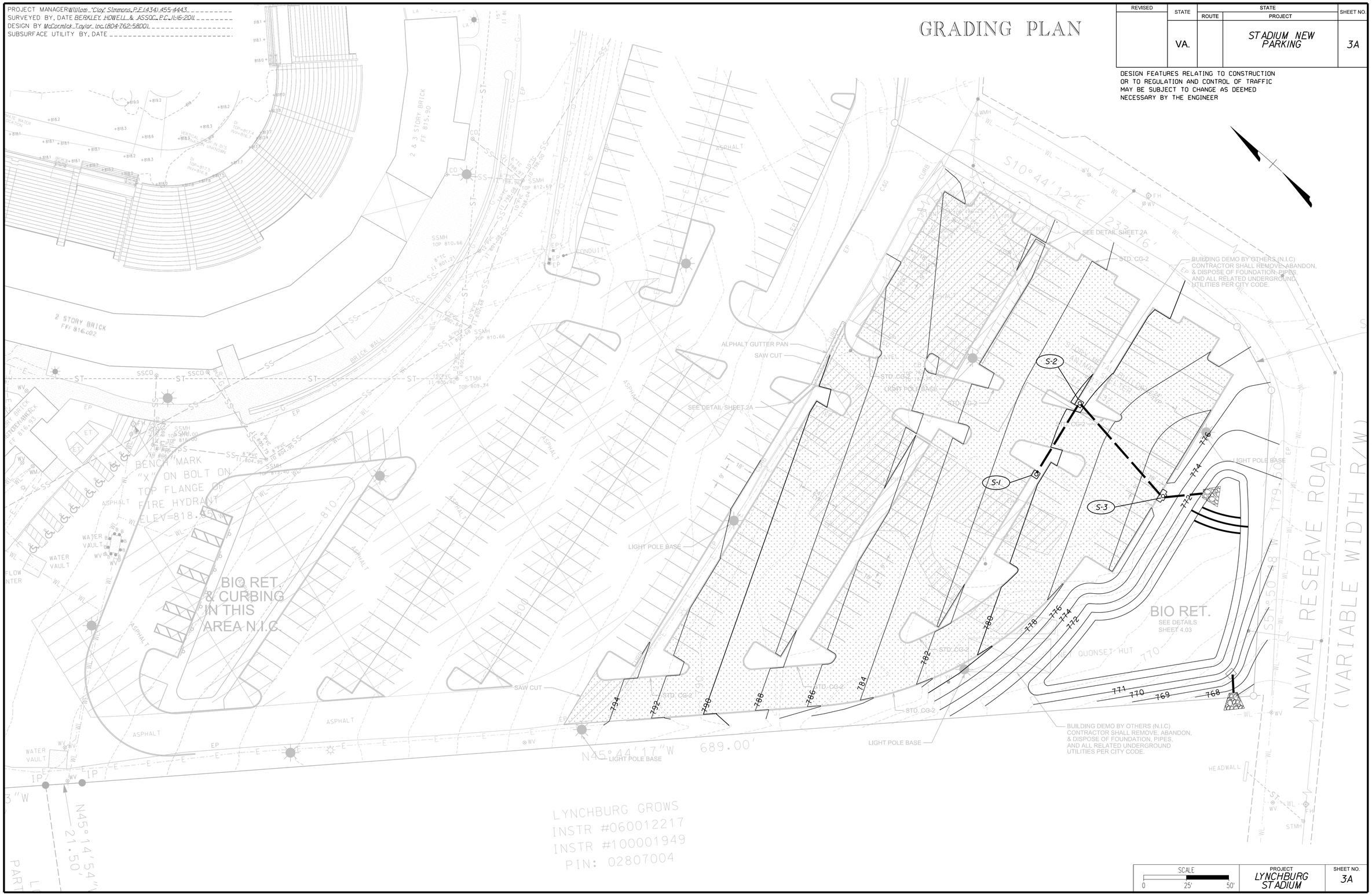
Stadium_003A.dgn
Plotted By: localuser

PROJECT MANAGER William "Clay" Simmons, P.E. (434) 455-4443
SURVEYED BY, DATE BERKLEY HOWELL & ASSOC., P.C. 11-16-2011
DESIGN BY McCormick Taylor, Inc. (804-762-5800)
SUBSURFACE UTILITY BY, DATE

GRADING PLAN

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		STADIUM NEW PARKING	3A

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE ENGINEER



SCALE	PROJECT	SHEET NO.
0 25' 50'	LYNCHBURG STADIUM	3A

PROJECT MANAGER William "Clay" Simmons, P.E. (434) 455-4443
SURVEYED BY, DATE BERKLEY HOWELL & ASSOC., P.C. 11-16-2011
DESIGN BY McCormick Taylor Inc. (804-762-5800)
SUBSURFACE UTILITY BY, DATE

REVISED	STATE	STATE ROUTE	PROJECT	SHEET NO
	VA.	×	STADIUM NEW PARKING ×××	×

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

GENERAL NOTES

UTILITIES

1. ANY DAMAGE TO EXISTING UTILITIES CAUSED BY CONTRACTOR OR ITS SUBCONTRACTORS SHALL BE CONTRACTOR'S SOLE RESPONSIBILITY AND REPAIRED AT CONTRACTOR'S EXPENSE.

2. THE CONTRACT DOCUMENTS DO NOT GUARANTEE THE EXISTENCE, NON-EXISTENCE OR LOCATION OF UTILITIES. CONTRACTOR SHALL VERIFY THE EXISTENCE AND LOCATION OR THE NON-EXISTENCE OF UTILITIES. AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION OR CONSTRUCTION, CONTRACTOR SHALL NOTIFY MISS UTILITY(1-800-552-7001) AND/OR THE RESPECTIVE UTILITY COMPANIES FOR GAS, WATER, SEWER, POWER, PHONE AND CABLE. CONTRACTOR SHALL TIMELY ARRANGE TO HAVE THE VARIOUS UTILITIES LOCATED, AND TO HAVE THEM REMOVED OR RELOCATED, OR TO DETERMINE THE METHOD OF PROTECTION ACCEPTABLE TO THE RESPECTIVE OWNER, IF THE METHOD OF PROTECTION IS NOT OTHERWISE SPECIFIED. CONTRACTOR SHALL CONDUCT ITS WORK IN THE VICINITY OF EXISTING UTILITIES IN ACCORDANCE WITH THE RESPECTIVE UTILITY'S RULES AND REGULATIONS. ANY COST INCURRED FOR REMOVING, RELOCATING OR PROTECTING UTILITIES SHALL BE BORNE BY CONTRACTOR UNLESS INDICATED OTHERWISE. CONTRACTOR SHALL EXCAVATE TO LOCATE BURIED UTILITIES FAR ENOUGH IN ADVANCE OF ITS WORK TO ALLOW FOR HORIZONTAL AND /OR VERTICAL ADJUSTMENTS TO ITS WORK AND/OR THE UTILITIES. NO ADJUSTMENT IN COMPENSATION OR SCHEDULE WILL BE ALLOWED FOR DELAYS RESULTING FROM CONTRACTOR'S FAILURE TO CONTACT AND COORDINATE WITH UTILITIES.

3. WHEN THE WORK CROSSES EXISTING UTILITIES, THE EXISTING UTILITIES SHALL BE ADEQUATELY SUPPORTED AND PROTECTED FROM DAMAGE DUE TO THE WORK. ALL METHODS FOR SUPPORTING AND MAINTAINING THE EXISTING UTILITIES SHALL BE APPROVED BY THE RESPECTIVE UTILITY COMPANY AND/OR THE ENGINEER. CONTRACTOR SHALL EXERCISE CARE TO INSURE THAT THE GRADE AND ALIGNMENT OF EXISTING UTILITIES ARE MAINTAINED AND THAT NO JOINTS OR CONNECTIONS ARE DISPLACED. BACKFILL SHALL BE CAREFULLY PLACED AND COMPACTED TO PREVENT FUTURE DAMAGE OR SETTLEMENT TO EXISTING UTILITIES. ANY UTILITIES REMOVED AS PART OF THE WORK, AND NOT INDICATED TO BE REMOVED OR ABANDONED, SHALL BE RESTORED USING MATERIALS AND INSTALLATION EQUAL TO THE UTILITY'S STANDARDS.

4. CONTRACTOR SHALL NOTIFY LANDOWNERS, TENANTS AND THE ENGINEER PRIOR TO THE INTERRUPTION OF ANY SERVICES. SERVICE INTERRUPTIONS SHALL BE KEPT TO A MINIMUM.

5. CONTRACTOR SHALL COORDINATE WITH THE CITY TO LOCATE SIGNAL LOOP DETECTORS AND CONDUITS IN ORDER TO AVOID DAMAGE TO THEM. CONTRACTOR SHALL REIMBURSE THE CITY FOR REPAIRING ANY DAMAGE TO SIGNAL LOOP DETECTORS AND CONDUITS CAUSED BY CONTRACTOR'S FAILURE TO SO COORDINATE.

6. ALL RECTANGULAR WATER METER BOXES LOCATED IN SIDEWALKS SHALL BE REPLACED WITH ROUND ONES. THESE WILL BE FURNISHED BY THE CITY UPON ONE FULL WORKING DAY NOTIFICATION. THE ADJUSTMENT OF ALL MANHOLE TOPS, WATER VALVE BOXES, WATER METER BOXES SHALL BE THE RESPONSIBILITY OF CONTRACTOR. COSTS ARE TO BE INCLUDED WITHIN OTHER ITEM BID. NO SEPARATE PAYMENT WILL BE MADE.

7. THE CONTRACTOR SHALL NOTIFY THE CITY UTILITIES DIVISION AT LEAST TWO FULL WORKING DAYS IN ADVANCE TO ARRANGE GAS SERVICE LINE ADJUSTMENTS TO BE PERFORMED BY THE CITY.

8. ALL WATER METER, VALVES AND FIRE HYDRANT ADJUSTMENTS/RELOCATIONS SHALL BE PERFORMED BY THE CONTRACTOR.

EROSION CONTROL & WORK AREA PROTECTION AND MAINTENANCE

9. ALL FENCES REQUIRED TO BE REMOVED OR DISTURBED BY CONSTRUCTION SHALL BE SALVAGED, STORED, PROTECTED AND RE-INSTALLED BY CONTRACTOR. IF SUCH FENCE MATERIAL CANNOT BE REUSED DUE TO DAMAGE CAUSED BY CONTRACTOR, CONTRACTOR SHALL INSTALL NEW FENCE OF THE SAME TYPE OF MATERIAL. TEMPORARY FENCING REQUIRED BY PRIVATE PROPERTY OWNERS SHALL BE PROVIDED BY CONTRACTOR. CONTRACTOR IS ADVISED TO CONTACT PROPERTY OWNERS AT LEAST FORTY-EIGHT (48) HOURS IN ADVANCE OF REMOVING ANY FENCE IN ORDER TO COORDINATE RELOCATION AND/OR PROTECTION OF ANY ANIMALS, AND TO ESTABLISH AND CONFIRM WITH THE OWNER THE PRE-CONSTRUCTION CONDITION OF ANY FENCE TO BE REMOVED, DISTURBED OR REPLACED.

10. CONTRACTOR IS PERMITTED TO WORK IN THE PUBLIC RIGHT-OF-WAY AND ANY TEMPORARY OR PERMANENT EASEMENT SHOWN ON THE PLANS. HOWEVER, CONTRACTOR SHALL NOTIFY PROPERTY OWNER(S) FORTY-EIGHT (48) HOURS PRIOR TO WORKING ON ANY PRIVATE PROPERTY TO COORDINATE ACCESS AND TO DETERMINE A STORAGE AREA FOR MATERIALS IF NEEDED. COORDINATION OF ACCESS TO PUBLIC RIGHT-OF-WAY AND STORAGE OF MATERIALS THEREON SHALL BE COORDINATED WITH THE ENGINEER. CONTRACTOR'S FAILURE TO SO NOTIFY AND COORDINATE WITH PROPERTY OWNERS AND/OR THE ENGINEER MAY RESULT IN DELAYS. NO ADDITIONAL COMPENSATION OR TIME FOR PERFORMANCE WILL BE GIVEN FOR ANY SUCH DELAYS.

11. CONTRACTOR SHALL, AT HIS EXPENSE, MAINTAIN THE WORK SITE IN A CLEAN AND ORDERLY APPEARANCE AT ALL TIMES. ALL DEBRIS AND SURPLUS MATERIAL COLLECTED SHALL BE DISPOSED OF OFF THE WORK SITE BY CONTRACTOR, AT HIS EXPENSE.

12. EXISTING LAWNS, TREES, SHRUBS, FENCES, UTILITIES, CULVERTS, WALLS, WALKS, DRIVEWAYS, POLES, SIGNS, RIGHT-OF-WAY MONUMENTS, MAILBOXES AND THE LIKE SHALL BE PROTECTED FROM DAMAGE DURING THE WORK. ANY DAMAGE CAUSED TO SUCH ITEMS SHALL BE REPAIRED OR REPLACED BY CONTRACTOR AT NO ADDITIONAL COST. PROPERTY PINS DISTURBED BY CONTRACTOR THAT ARE NOT SHOWN ON THE PLANS TO BE DISTURBED SHALL BE RESTORED BY A LICENSED SURVEYOR AT CONTRACTOR'S EXPENSE.

13. CONTRACTOR SHALL EMPLOY EROSION CONTROL DEVICES AND METHODS AS REQUIRED TO MEET THE REQUIREMENTS AND INTENT OF THE CITY EROSION CONTROL ORDINANCE. CONTRACTOR SHALL PROVIDE THE NECESSARY DIVERSION DITCHES, DIKES OR TEMPORARY CULVERTS REQUIRED TO PREVENT MUD AND DEBRIS FROM BEING WASHED ONTO THE STREETS OR PROPERTY. CONTRACTOR'S VEHICLES SHALL BE KEPT CLEAN TO PREVENT MUD OR DUST FROM BEING DEPOSITED ON STREETS. NO AREA SHALL BE LEFT DENUDED FOR MORE THAN SEVEN (7) CALENDAR DAYS.

14. CONTRACTOR SHALL CLEAN UP, RESTORE, SEED AND MAINTAIN ALL DISTURBED AREAS IMMEDIATELY UPON COMPLETION OF WORK ON EACH SITE. TOPSOIL, SEED, FERTILIZER AND MULCH SHALL BE PLACED IN ACCORDANCE WITH CITY STANDARDS ON ALL DISTURBED AREAS. A PERMANENT STAND OF GRASS ADEQUATE TO PREVENT EROSION SHALL BE ESTABLISHED PRIOR TO FINAL ACCEPTANCE.

15. AS DETERMINED BY THE ENGINEER, ANY DEFECTIVE, FAULTY, CRACKED, BROKEN OR GRAFFITIED SIDEWALKS, DRIVEWAYS, HANDICAP RAMPS OR CURB & GUTTER SHALL BE REMOVED AND REPLACED PRIOR TO FINAL ACCEPTANCE. NO ADDITIONAL PAYMENT WILL BE MADE FOR SUCH WORK.

EARTHWORK AND SITE CONDITIONS

16. EXCEPT AS OTHERWISE SHOWN ON THE PLANS, ALL CUTS AND FILLS SHALL MATCH EXISTING SLOPES OR BE NO GREATER THAN 2:1.

17. UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS, ALL FILL MATERIALS SHALL BE COMPACTED TO 95% OF THEORETICAL MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99 METHOD A, WITHIN PLUS OR MINUS 2% OF OPTIMUM MOISTURE, FOR THE FULL WIDTH AND DEPTH OF THE FILL.

18. ALL GRADING AND IMPROVEMENTS TO BE CONFINED TO THE PROJECT AREA UNLESS OTHERWISE INDICATED.

19. ALL MATERIALS AND INSTALLATION DETAILS SHALL CONFORM TO THE CITY OF LYNCHBURG ENGINEERING DIVISION STANDARDS AND ALL OTHER APPLICABLE CITY ORDINANCES.

20. ANY UNUSUAL OR UNANTICIPATED SUBSURFACE CONDITIONS SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER.

21. CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS AND LOCATIONS PRIOR TO BEGINNING WORK, AND IMMEDIATELY NOTIFY THE ENGINEER IN THE EVENT THERE ARE ANY DISCREPANCIES BETWEEN SUCH CONDITIONS AND THOSE SHOWN ON THE PLANS AND SPECIFICATIONS.

22. THE QUANTITIES INDICATED FOR EACH SITE ARE THE MINIMUM WORK TO BE DONE AT THE SITE. CONTRACTOR SHALL FURNISH ALL MATERIAL AND PERFORM ALL WORK REQUIRED FOR A WORKING INSTALLATION AT THE SITE. MEASUREMENT AND PAYMENT OF THE WORK COMPLETED SHALL BE PER THE SPECIFICATIONS.

23. BENCH MARKS ARE AS NOTED ON DRAWINGS AND ARE FROM ASSUMED DATUM.

GENERAL NOTES Con't

CONCRETE AND ASPHALT

1. ALL FORMS SHALL BE INSPECTED BY THE ENGINEER BEFORE ANY CONCRETE IS PLACED. THE ENGINEER MAY REQUIRE CONTRACTOR, AT NO ADDITIONAL COST, TO REMOVE AND REPLACE CONCRETE PLACED PRIOR TO OR WITHOUT SUCH INSPECTION.

2. ALL MATERIAL INSIDE FORMS SHALL BE CLEAN AND FREE OF ALL ROCKS AND OTHER LOOSE DEBRIS. SUB-BASE MATERIAL SHALL BE COMPACTED BY MECHANICAL MEANS.

3. CONCRETE SHALL NOT BE PLACED UNLESS THE AIR TEMPERATURE IS AT LEAST 40 DEGREES FAHRENHEIT (F) IN THE SHADE AND RISING.

4. CONCRETE SHALL NOT BE PLACED UNTIL STEEL DOWELS HAVE BEEN INSTALLED IN EXISTING CONCRETE IN ACCORDANCE WITH CITY STANDARDS.

5. 1/2" PREMOLDED EXPANSION JOINT MATERIAL SHALL BE PLACED AT A MAXIMUM OF 30' INTERVALS ON NEW SIDEWALK, CURB, CURB & GUTTER, AT EACH END OF DRIVEWAY ENTRANCES, AT EACH END OF HANDICAP RAMPS, SOME POINT ON ENTRANCE WALKS AND STEPS ADJUSTMENTS, AND ALONG BUILDINGS AND WALLS WHERE NEW CONCRETE SIDEWALKS ARE PLACED AGAINST THEM.

6. ALL EXISTING CURBS, CURB & GUTTER, SIDEWALK AND STEPS TO BE REMOVED SHALL BE TAKEN OUT TO THE NEAREST JOINT. DEMOLITION AND DISPOSAL COST TO BE INCLUDED IN OTHER UNIT BID ITEMS. NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK.

7. ALL EXISTING GRANITE CURB SHALL REMAIN THE PROPERTY OF THE CITY OF LYNCHBURG. IT SHALL BE REMOVED AND DELIVERED BY THE CONTRACTOR TO THE CITY'S PUBLIC WORKS COMPLEX. COST TO BE INCLUDED UNDER THE VARIOUS UNIT BID ITEMS. NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK.

8. STREET PAVEMENT STRUCTURE AND PATCHING SHALL BE EXTENDED FROM THE FRONT OF NEW CONCRETE TO THE EXISTING PROJECTION OF THE SOUND STREET EDGE AS DIRECTED BY THE ENGINEER.

9. DRIVEWAY ADJUSTMENTS ARE TO BE DONE IN GENTLE TRANSITIONS RATHER THAN ABRUPT BREAKS AT THE BACK OF WALKS. GRAVEL DRIVEWAYS ABOVE STREET GRADE SHALL BE PAVED FOR A MINIMUM DISTANCE OF 20' BEYOND THE BACK OF THE SIDEWALK OR CURB & GUTTER APRON WHERE APPLICABLE.

10. EXISTING ASPHALT CONCRETE PAVEMENT SHALL BE SAW CUT AND REMOVED AS PER THE SPECIFICATIONS. REMOVAL SHALL BE DONE IN SUCH A MANNER AS TO NOT TEAR, BULGE OR DISPLACE ADJACENT PAVEMENT. EDGES SHALL BE CLEAN AND VERTICAL, ALL CUTS SHALL BE PARALLEL OR PERPENDICULAR TO THE DIRECTION OF TRAFFIC.

11. DISPOSAL OF ALL EXCESS MATERIAL IS THE RESPONSIBILITY OF CONTRACTOR.

DRAINAGE

12. CONTRACTOR SHALL EXERCISE CARE, ESPECIALLY AT INTERSECTIONS AND GUTTER LINES, TO PROVIDE POSITIVE DRAINAGE. ANY AREAS WHERE WATER IS IMPOUNDED SHALL BE CORRECTED BY CONTRACTOR AT NO ADDITIONAL COST. POSITIVE DRAINAGE OF ALL ROADWAY AREAS TO THE STORM DRAIN INLETS OR OTHER ACCEPTABLE DRAINAGE CHANNELS AS NOTED ON THE PLANS IS REQUIRED.

13. CONTRACTOR SHALL MAINTAIN EXISTING STREAMS, DITCHES, DRAINAGE STRUCTURES, CULVERTS AND FLOWS AT ALL TIMES DURING THE WORK. CONTRACTOR SHALL PAY FOR ALL PERSONAL INJURY AND PROPERTY DAMAGE WHICH MAY OCCUR AS A RESULT OF FAILING TO MAINTAIN ADEQUATE DRAINAGE.

14. ALL PIPES, DI'S AND OTHER STRUCTURES SHALL BE INSPECTED BY THE ENGINEER BEFORE BEING BACKFILLED OR BURIED. THE ENGINEER MAY REQUIRE CONTRACTOR, AT NO ADDITIONAL COST, TO UNCOVER AND RE-COVER SUCH STRUCTURES IF THEY HAVE BEEN BACKFILLED OR BURIED WITHOUT SUCH INSPECTION.

15. ALL CATCH BASINS ENCOMPASSED WITHIN NEW CONSTRUCTION SHALL BE CONVERTED TO DROP INLETS.

16. CLASS I RIP RAP MODIFICATIONS ALLOWS FOR A REDUCTION IN STONE DEPTH FROM 2.0' TO A MINIMUM OF 1.0' AS DIRECTED BY THE ENGINEER.

17. REMOVED PIPE SHALL BE THE PROPERTY OF CONTRACTOR AND IF NOT SALVAGED FOR RE-USE, SHALL BE DISPOSED OF LAWFULLY.

18. ALL STORM SEWER PIPE AND DROP INLETS SHALL BE CLEARED OF DEBRIS AND ERODED MATERIAL PRIOR TO FINAL ACCEPTANCE.

19. ALL STORM SEWER PIPE JOINTS SHALL BE SEATED AND SEALED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

20. ALL EXISTING ROOF DRAINS AND OTHER DRAINAGE CONDUIT TIED INTO EXISTING PIPE SHALL BE TIED INTO NEW PIPE. ALL EXISTING ROOF DRAINS AND OTHER DRAINAGE CONDUIT BLOCKED OR DISRUPTED FROM THEIR PRE-CONSTRUCTION DRAINAGE PATTERNS SHALL BE SHORTENED, EXTENDED OR OTHERWISE CONNECTED TO THE NEW WORK USING MATERIALS APPROVED BY THE ENGINEER, AND IN SUCH A WAY THAT THE NEW DRAINAGE PATTERNS ARE ACCEPTABLE TO ENGINEER. COSTS ARE TO BE INCLUDED UNDER THE VARIOUS UNIT BID ITEMS. NO SEPARATE PAYMENT WILL BE MADE.

VEGETATION

21. PRIOR TO REMOVING ANY VEGETATION, CONTRACTOR SHALL MEET WITH THE PROPERTY OWNERS AND THE ENGINEER TO REVIEW THE LIMITS OF CONSTRUCTION AND OBTAIN PERMISSION TO REMOVE VEGETATION REQUIRED TO DO THE WORK.

22. TREE AND PLANT ROOTS OR BRANCHES THAT MAY INTERFERE WITH THE WORK SHALL BE TRIMMED OR CUT ONLY WITH THE APPROVAL OF THE OWNER AND ENGINEER. ANY TREES OR PLANTS WHICH ARE SHOWN TO REMAIN THAT DO NOT INTERFERE WITH THE WORK, BUT ARE DAMAGED BY CONTRACTOR OR HIS SUBCONTRACTORS, SHALL BE REPAIRED OR REPLACED BY CONTRACTOR AT NO ADDITIONAL COST.

TRAFFIC AND SIGNAGE

23. ALL NO PARKING REQUIREMENTS SHALL BE PROVIDED BY CONTRACTOR WITH APPROVAL OF THE ENGINEER.

24. CONTRACTOR SHALL PROVIDE NECESSARY REFLECTORS, BARRICADES, TRAFFIC CONTROL DEVICES AND/OR FLAG PERSONS TO INSURE THE SAFETY OF ITS WORKERS AND THE PUBLIC.

25. CONTRACTOR SHALL MAINTAIN SAFE AND PASSABLE PUBLIC ACCESS TO PEDESTRIANS AND VEHICULAR TRAFFIC TO PROPERTIES AND THE PUBLIC RIGHT-OF-WAY DURING CONSTRUCTION. EXCEPT AS APPROVED IN ADVANCE IN WRITING BY THE ENGINEER, AT LEAST ONE LANE OF TRAVEL, NOT LESS THAN 10 FEET WIDE, SHALL BE MAINTAINED AT ALL TIMES THROUGH WORK AREAS WITHIN THE PUBLIC RIGHT-OF-WAY. ACCESS FOR EMERGENCY VEHICLES SHALL BE MAINTAINED AT ALL TIMES.

26. CONTRACTOR SHALL NOTIFY PROPERTY OWNER(S) TWELVE (12) HOURS IN ADVANCE OF BLOCKING ANY ENTRANCE. NO ENTRANCE SHALL BE BLOCKED FOR MORE THAN TWELVE (12)HOURS IN ANY 24 HOUR PERIOD WITHOUT APPROVAL OF THE PROPERTY OWNER, EXCEPT WHERE NEW ENTRANCES ARE CONSTRUCTED.

27. WITHIN 24 HOURS OF THEIR REMOVAL, CONTRACTOR SHALL REPLACE MAILBOXES, STREET SIGNS, TRAFFIC SIGNS, AND THE LIKE THAT ARE REMOVED FOR CONSTRUCTION. PERMANENT OR SUITABLE TEMPORARY ITEMS WILL BE USED AS THE STATUS OF WORK PERMITS. PERMANENT OR TEMPORARY STOP SIGNS MUST BE IN PLACE AT ALL TIMES. COSTS SHOULD BE INCLUDED UNDER THE VARIOUS UNIT BID ITEMS. NO SEPARATE PAYMENT WILL BE MADE.

28. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE CITY TRAFFIC DIVISION ONE FULL WORKING DAY PRIOR TO ANY CONCRETE POUR WHERE TRAFFIC AND STREET SIGNS ARE TO BE REPLACED. UPON SUCH NOTIFICATION, THE CITY WILL PROVIDE SIGN POST SLEEVES, WHEN NEEDED, AND IDENTIFY THE LOCATION WHERE SIGNS ARE TO BE PLACED.

29. ALL PAVEMENT MARKINGS (CROSSWALK AND STOP BARS) SHALL BE THERMOPLASTIC STRIPING.

GENERAL NOTES Con't

MISCELLANEOUS

1. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS, INSPECTIONS, BONDS, AND OTHER APPROVAL RELATED ITEMS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, LOCAL, STATE, AND FEDERAL POLICIES.

2. ALL WATER METERS, WATER VALVES, MANHOLES, CLEANOUTS, GATE VALVES, ETC. AFFECTED BY GRADING PROCEDURES SHALL BE ADJUSTED TO MATCH FINISHED GRADE.

3. ITEMS DISTURBED OR DAMAGED DURING CONSTRUCTION THAT ARE NOT SPECIFICALLY NOTED TO BE REPLACED SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITIONS AT THE CONTRACTOR'S EXPENSE. ALL PROPERTY CORNERS AND R/W MONUMENTS THAT ARE DISTRUBED SHALL BE RESET BY CONTRACTORS LICENSED SURVEYOR. ALL SIGNS REMOVED DURING CONSTRUCTION ARE TO BE REPLACED AS SHOWN ON PLANS AND IN ACCORDANCE WITH VDOT AND MUTCD STANDARDS.

4. CITY SPEC. STATES CURB RADII ARE MEASURED TO THE FACE OF CURB.

5. CONTRACTOR SHALL BE RESPONSIBLE FOR SAFETY ON THE SITE. CONTRACTOR SHALL INSTALL ANY BARRIERS, TEMPORARY FENCING, FLASHERS, LIGHTING OR ANY OTHER MEANS NECESSARY TO PROTECT UNAUTHORIZED PERSONNEL FROM HAZARDOUS AREAS.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF TRAFFIC CONTROL IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL AND THE VIRGINIA WORK AREA PROTECTION MANUAL.

7. PROPOSED SPOT ELEVATIONS ON CURBING REFERENCE THE BACK/TOP OF CURB ELEVATION. UNLESS OTHERWISE NOTED.

8. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING POSITIVE DRAINAGE TO EXISTING STORM SYSTEMS DURING ALL PHASES OF THE PROJECT. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE IN ALL ASPECTS OF THE PROJECT. ALL AREAS OF PONDING SHALL BE ADJUSTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNERS.

9. WHEN 6" CURB AND GUTTER IS SPECIFIED ON A RADIUS, THE CITY MAY APPROVE A DECREASE IN THE CROSS SLOPE OF THE GUTTER TO FACILITATE PROPER DRAINAGE.

10. ALL EXCESS EXCAVATED MATERIAL WILL BE DISPOSED OF LEGALLY OFF SITE AND AT CONTRACTORS EXPENSES. CONTRACTOR TO OBTAIN SITE, AND E&S PERMIT. ALL EXCAVATION IS UNCLASSIFIED AND NO ADDITIONAL PAYMENT WILL BE MADE FOR UNSUITABLE MATERIAL ENCOUNTERED.

11. THE USE OF REPLACEABLE CAST-IN-PLACE TRUNCATED DOMES SHALL BE INCORPORATED IN THE CONSTRUCTION OF ALL MOBILITY IMPARED ACCESSIBLE RAMPS PER VDOT STANDARDS AS REFERENCED IN THESE PLANS. COLOR AND TYPE SHALL BE DETERMINED BY OWNER. SURFACE MOUNTED OR FORMED TRUNCATED DOMES SHALL ONLY BE USED IF CALLED FOR IN THE PLANS.

12. THE CONTRACTOR SHALL RESTORE ALL PAVEMENT, SIDEWALKS, CURBING, GUTTER, FENCES, POLES, RETAINING WALLS, CULVERTS, UTILITIES, OR OTHER SUCH PROPERTY, LANDSCAPING AND SURFACE STURCTURES REMOVED OR DISTRUBED AS A PART OF THE WORK TO A CONDITION EQUAL TO THAT BEFORE THE WORK BEGAN.

13. CONTRACTOR SHALL SAW-CUT ALL JOINTS WHERE EXISTING CURBING, PAVEMENT, AND SIDEWALK IS TO BE DEMOLISED AND NEW CONSTRUCTION JOINS THE EXISITNG.

14. PERMITS, FEES AND LICENSES SHALL BE SECURED AND PAID FOR BY THE CONTRACTOR, INCLUDING DISPOSAL CHARGES AS REQUIRED.

15. CONTRACTOR SHALL INSTALL EROSION & SEDIMENT CONTROL MEASURES PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES.

16. DISTRUBED AREAS NOT TO BE PAVED SHALL BE TOPSOILED, SEEDED, AND MULCHED ACCORDING TO THE VESCH STANDARDS.

17. CONTRACTOR SHALL COMPLY WITH S59.1-406, ET SEQ. OF THE CODE OF VIRGINIA (OVERHEAD HIGH VOLTAGE LINES SAFETY ACT).

18. FOR ANY WORK, THE UTILITY SHALL HAVE A DESIGNATED, QUALIFIED AND ADEQUATELY TRAINED WORKSITE TRAFFIC CONTROL SUPERVISOR (WTCS) ON STAFF AND BE AVAILABLE ON A 24-HOUR BASIS.

19. IT IS THE RESPONSIBILITY OF THE UTILITY OWNER TO CONTACT BUSINESS OWNERS WHEN DRIVEWAYS ARE CLOSED AT ANY GIVEN TIME.

20. STORAGE OF MATERIALS ON THE RIGHT OF WAY WITHIN THE CLEAR ZONE IS PROHIBITED, UNLESS TEMPORARILY ONLY, FOR A SUFFICIENT DURATION TO FACILITATE CONSTRUCTION WHICH SHALL BE EXPEDITIOUSLY PURSUED.

21. WHERE TRENCHES OR PITS WITHIN THE CLEAR ZONE AND CANNOT BE BACKFILLED BEFORE LEAVING THE WORK SITE, THEY SHALL BE COVERED BY METAL PLATES OF SUFFICIENT THICKNESS AND SIZE TO SAFELY SUPPORT TRAFFIC.

22. FOR ANY STEEL/IRON ITEMS NEEDED FOR THIS PROJECT, "USE DOMESTIC MATERIAL ONLY" OR "BUY AMERICA ONLY" SHALL BE USED.

23. PRIOR TO BEGINNING WORK, WHETHER BY PERMIT OR AGREEMENT WITH THE SPONSOR, THE UTILITY OWNER SHALL NOTIFY THE RESIDENCY CONSTRUCTION ENGINEER, CONSTRUCTION PROJECT MANAGER AND PRESENT THEIR WORK SCHEDULE AND TEMPORARY TRAFFIC CONTROL PLAN (TTCP) IN ORDER TO REVIEW ANY CHANGES FROM THE PRECONSTRUCTION PHASE.

SITE DATA

ENGINEER: EPR, P.C.
637 BERKMAR CIRCLE
CHARLOTTESVILLE, VA 22901
CONTACT: LYNETTE WUENSCH, P.E.
TELEPHONE: 804-647-7701
L.WUENSCH@EPR-CORP.COM

SOURCE OF BOUNDARY AND TOPOGRAPHY:
CITY OF LYNCHBURG
CONTACT : WILLIAM "CLAY" SIMMONS, P.E.
DEPUTY DIRECTOR OF PUBLIC WORKS
CITY OF LYNCHBURG
1700 MEMORIAL AVE.
LYNCHBURG, VA 24501
434-455-4443
clay.simmons@lynchburgva.gov

UTILITIES: TELEPHONE: VERIZON
CABLE: LUMOS NETWORK
GAS: COLOMBIA GAS
ELECTRIC: APPALACHIAN ELECTRIC POWER (AEP)
SEWER: CITY OF LYNCHBURG
WATER: CITY OF LYNCHBURG

DRAINAGE DISTRICT:
STADIUM SITE - FISHING CREEK

THERE ARE NO STREAM BUFFERS ON THE SUBJECT PROPERTIES.
THERE ARE NO 100-YR FLOODPLAINS ON THE SUBJECT PROPERTIES.
THESE SITES ARE NOT LOCATED WITHIN A RESERVOIR WATERSHED.

RECEIVING STREAM
VA HU6 - JMII - FISHING CREEK (5.44 MILES)

THE FISHING CREEK WATERSHED AREA OF APPROXIMATELY 4,590 ACRES IS COMPRISED OF RESIDENTIAL/COMMERICIAL (54%), FOREST (38%), PASTURE/CROPLAND (7%), AND WATER/WETLAND (1%).

-:LEGEND:-

Existing Curb
" Curb & Gutter
" Sidewalk
" Basin
" Storm Sewer — 15"
" Sewer Manhole — MH
" Sanitary Sewer (Gravity) — 12"SAN.
" Sanitary Sewer (Force Main) — 10"SFM
" Gas Line — 2"G
" Electric Line — E
" Telephone/Telegraph — T/Tg
" TV Cable — CATV
" Water Line — 6"W
" Tree / Exist. Tree To Be Removed / Stump
" Property Line

Existing Coping
" Fire Hydrant
" Edge of Pavement — EP
" Fence
" Cornerstone
" Property Pin
" Utility Pole
Proposed Alley Crossing/Driveway
Proposed Sewer
" Manhole — MH
" Basin
" Curb & Gutter
" Asphalt

Proposed Conc. Sidewalk
" Brick Sidewalk
Castings: Water Valve — WV
" Water Meter — WM
" Gas Drip — GD
" Gas Valve — GV
" Telephone Manhole — T
" Electric Manhole — E
Proposed Curb Cut Ramp
" Decorative Light
" Conduit
" Conduit (Conc. Encased)
Demo Existing Structures/Materials ①

CONTRACTOR SHALL CONTACT MISS UTILITY @ 1-800-552-7001 FOR LOCATION OF ALL UTILITIES, AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.

100% PLANS NOT FOR CONSTRUCTION

COMMONWEALTH OF VIRGINIA
LYNETTE L. WUENSCH
Lic. No. 38710
09/29/16
PROFESSIONAL ENGINEER

EPRPC
Traffic • Transportation • Stormwater • Civil
Civil • Stormwater • Traffic • Transportation
637 BERKMAR CIRCLE
Charlottesville • Virginia
22901 • (804) 647-7701

GENERAL NOTES

SCALE 0 40' 80'
PROJECT LYNCHBURG STADIUM
SHEET NO. 4.01

PROJECT MANAGER William "Clay" Simmons, P.E. (434) 455-4443
SURVEYED BY, DATE BERKLEY HOWELL & ASSOC., P.C. 11-16-2011
DESIGN BY McCarmick_Taylor_Inc. (804-762-5800)
SUBSURFACE UTILITY BY, DATE

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		STADIUM NEW PARKING	

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

CONTRACTOR SHALL CONTACT MISS UTILITY @ 1-800-552-7001 FOR LOCATION OF ALL UTILITIES, AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.

PRE DEVELOPMENT SUMMARY TABLE

ID	DRAINAGE AREA	RUNOFF COEFFICIENT	TIME OF CONCENTRATION	RUNOFF RATE (cfs)			
	acres		min	1 YEAR	2 YEAR	10 YEAR	25 YEAR
DA-A	1.86	0.63	8	5.1	5.5	7.2	8.2

COMMONWEALTH OF VIRGINIA
LYNETTE L. WUENSCH
Lic. No. 38710
09/29/2016
PROFESSIONAL ENGINEER

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22901 • (804) 647-7701

100% PLANS NOT FOR CONSTRUCTION

PRE DEVELOPMENT DRAINAGE MAPS

SCALE 0 40' 80'

PROJECT LYNCHBURG STADIUM

SHEET NO. 4.02

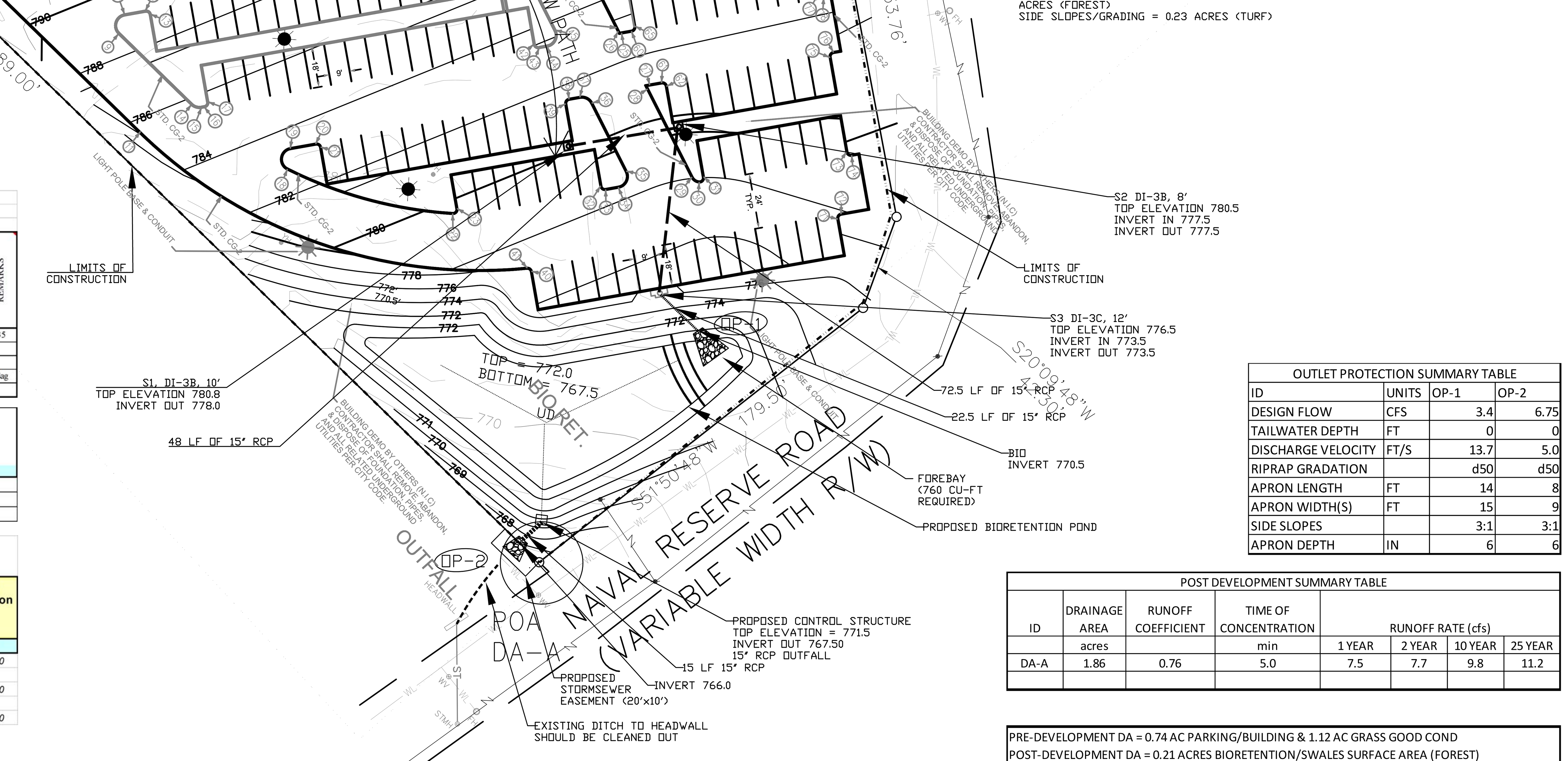
PROJECT MANAGER William "Clay" Simmons, P.E. (434) 455-4443
SURVEYED BY, DATE BERKLEY HOWELL & ASSOC., P.C. 11-16-2011
DESIGN BY McCormick Taylor Inc. (804-762-5800)
SUBSURFACE UTILITY BY, DATE

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.		STADIUM NEW PARKING	

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

SITE IMPROVEMENT NOTES:

1. PLACE A MINIMUM OF 4" TOPSOIL FINE GRADE, SEED, FERTILIZE AND MULCH ALL DISTURBED AREA NOT NOTED TO BE PAVED OR LANDSCAPED.
2. PLACE A WEED BARRIER AND A MINIMUM OF 2" MULCH IN TREED AREA.
3. USE AN EROSION CONTROL SEED MIX ON SEVERE SLOPE (>4:1) AREAS.
4. CONTRACTOR SHALL MAINTAIN EXISTING STREAMS, DITCHES, DRAINAGE STRUCTURES, CULVERTS AND FLOWS AT ALL TIMES DURING CONSTRUCTION. CONTRACTOR SHALL PAY FOR ALL PERSONAL INJURY AND PROPERTY DAMAGE WHICH MAY OCCUR AS A RESULT OF FAILING TO MAINTAIN ADEQUATE DRAINAGE.



City of Lynchburg Stadium Parking Lot expansion
9/29/2016
INLET COMPUTATIONS

INLET NUMBER	INLET TYPE	DRAINAGE AREA (AC)	C	CA	Sum CA	I (IN/HR)	Q INCR (CFS)	Q CARRY-OVER (CFS)	Q_T GUTTER FLOW (CFS)	S GUTTER SLOPE (FT/FT)	S_X CROSS SLOPE (FT/FT)	T (SPREAD) (FT)	W (FT)	W/T	S_W (FT/FT)	S_W/S_X	E_O	Local Depression (in)	a=12W(Sw-Sx)+Local Depression	S_W = a/(12W)	S_e (FT/FT) = $S_X + S_W E_O$	Computed Length Lt (FT)	L, Specified Length (FT)	L/Lt	E=1-(1-L/Lt)^1.8	Qi, INTERCEPTED (CFS)	Qb, CARRYOVER (CFS)	d (FT)	h (FT)	d/h	Lr(ft), Required Length	T, SPREAD @ SAG (FT)	REMARKS
1	2	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20A	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
S1	DI-3B	0.48	0.83	0.40	0.40	6.85	2.73	0.00	2.73	0.3	0.0208	6.37	2.0	0.31	0.0833	4.00	0.76	2	3.5	0.1458	0.1316	10.50	10.00	0.95	1.00	2.72	0.01						
S2	DI-3B	0.32	0.82	0.26	0.66	6.85	1.80	0.01	1.81	0.3	0.0208	5.45	2.0	0.37	0.0833	4.00	0.76	2	3.5	0.1458	0.1316	8.81	8.00	0.91	0.99	1.78	0.02						
S3	DI-3C	0.56	0.83	0.46	1.13	6.85	3.18	0.02	3.20	0.3	0.0208	6.75	2.0	0.30	0.0833	4.00	0.78	2	3.5	0.1458	0.1346	11.06	12.00	1.00	1.00	3.20	0.00	0.17	0.46	0.37	5.17	6.75	Sag

SAG INLETS ONLY: columns 30–34.

n= 0.013 | County Number 118 | Σ= | Rainfall ◉ 10 ○ 25 ○ 50 | Concrete Pipe 15 inch, Wall t = 0.19'

FROM POINT station	TO POINT station	area "A" acres	C	CA	Sum CA	Tc min	I-25 in./hr.	Q-25 cfs	Q-50 cfs	Upper end ft	COVER ft	Lower end ft	COVER ft	Length L ft	Slope S ft./ft.	Dia. inch	Capacity Q cfs	Velocity V-25 ft/sec	Velocity V-50 ft/sec	Flow Time 50 min	Remarks
S1	S2	0.480	0.83	0.43	0.427	5.0	6.85	2.3	2.9	778.000	1.55	777.500	1.75	48.0	0.010	15	6.59	4.9	5.2	0.2	
S2	S3	0.320	0.82	0.28	0.285	5.0	6.85	1.5	2.0	777.500	1.75	773.500	1.75	72.5	0.055	15	15.17	7.9	8.5	0.2	
S3	BIO	0.560	0.83	0.50	0.498	5.0	6.85	2.7	3.4	773.500	1.75	770.500	0.00	22.5	0.133	15	23.59	12.7	13.7	0.0	

Stadium Site

Inlet Station	Outlet Water Surface Elevation	D_o in	Q_o	L_o	Sf_o '/'	H_f	V_o	H_o	Q_i	V_i	Q_iV_i	$V_i^2/2g$	Hi	Angle	Hd	Ht	1.3 Ht	0.5 Ht	Final H	Inlet Water Surface Elevation	Rim Elevation
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)		(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
S1	780.500	15	2.9	48.0	0.002	0.098	5.2	0.106	2.9	5.2	15.26	0.422	0.148			0.253	0.329	0.165	0.263	780.763	780.800
S2	776.500	15	2.0	72.5	0.001	0.066	8.5	0.281	2.0	8.5	16.60	1.125	0.394	60	0.619	1.294	1.682	0.841	0.907	777.407	780.500
S3	770.500	15	3.4	22.5	0.003	0.063	13.7	0.729	3.4	13.7	46.75	2.914	1.020		0.252	2.001	2.601	1.300	1.363	771.863	776.500

Columns (8)–(14): JUNCTION LOSS

Drainage Structure Summary Table

Structure Number	To Structure	Structure Type	Inlet Length (ft)	Class	Pipe Size	Rim Elevation	Invert Up	Invert down	Length	Slope
S1	S2	DI-3B	10.00	RCP CLIII	15	780.800	778.000	777.500	48.0	0.0104
S2	S3	DI-3B	8.00	RCP CLIII	15	780.500	777.500	773.500	72.5	0.0552
S3	BIORET	DI-3C	12.00	RCP CLIII	15	776.500	773.500	770.500	22.5	0.1333

FLOW SUMMARY TABLE

ID's	UNITS	DA-A
FEATURED IDS	UNITS	OP-1
DESIGN EVENT FREQUENCY	YEARS	10
RAINFALL INTENSITY	IN/HR	6.85
POST DEVELOPMENT		
TOTAL DRAINAGE AREA SIZE	ACRES	1.86
TIME OF CONCENTRATION	MINS	5
COMPOSITE RUNOFF FACTOR		0.76
DESIGN FLOW	CFS	9.8
PRE DEVELOPMENT		
TOTAL DRAINAGE AREA SIZE	ACRES	1.86
TIME OF CONCENTRATION	MINS	8
COMPOSITE RUNOFF FACTOR		0.63
DESIGN FLOW	CFS	7.2

TYPE OF BMP	BIORETENTION
OWNER OF BMP	CITY OF LYNCHBURG
# OF TREATED ACRES	1.86 AC (DA-A)
MAINTENANCE REQUIRED	- REMULCHING, TREATING DISEASED TREES AND SHRUBS, AND MOWING TURF AREAS. - NEWLY PLANTED VEGETATION SHOULD BE WATERED REGULARLY UNTIL PROPERLY ESTABLISHED. - EROSION ISSUES SHOULD BE ADDRESSED IMMEDIATELY. - WATER PLANTS THROUGHOUT PERIODS OF PERSISTANT DROUGHT. - REMOVAL OF TOP 2-3" OF DISCOLORED PLANTING MEDIUM AND REPLACEMENT WITH FRESH MIX WHEN PONDING LASTS MORE THAN 48 HOURS - ADD NEW MULCH YEARLY - REMOVE LITTER/PLANT DEBRIS

TYPE OF BMP	BIORETENTION FOREBAY
OWNER OF BMP	CITY OF LYNCHBURG
# OF TREATED ACRES	1.86 AC (DA-A)
MAINTENANCE REQUIRED	- REMULCHING, TREATING DISEASED TREES AND SHRUBS, AND MOWING TURF AREAS. - NEWLY PLANTED VEGETATION SHOULD BE WATERED REGULARLY UNTIL PROPERLY ESTABLISHED. - EROSION ISSUES SHOULD BE ADDRESSED IMMEDIATELY. - WATER PLANTS THROUGHOUT PERIODS OF PERSISTANT DROUGHT. - REMOVAL OF TOP 2-3" OF DISCOLORED PLANTING MEDIUM AND REPLACEMENT WITH FRESH MIX WHEN PONDING LASTS MORE THAN 48 HOURS - ADD NEW MULCH YEARLY - REMOVE LITTER/PLANT DEBRIS - CLEANOUT FOREBAY EVERY 5 YRS OR WHEN 50% OF THE FOREBAY CAPACITY HAS BEEN FILLED.

OUTLET PROTECTION SUMMARY TABLE

ID	UNITS	OP-1	OP-2
DESIGN FLOW	CFS	3.4	6.75
TAILWATER DEPTH	FT	0	0
DISCHARGE VELOCITY	FT/S	13.7	5.0
RIPRAP GRADATION		d50	d50
APRON LENGTH	FT	14	8
APRON WIDTH(S)	FT	15	9
SIDE SLOPES		3:1	3:1
APRON DEPTH	IN	6	6

POST DEVELOPMENT SUMMARY TABLE

ID	DRAINAGE AREA	RUNOFF COEFFICIENT	TIME OF CONCENTRATION	RUNOFF RATE (cfs) 1 YEAR	2 YEAR	10 YEAR	25 YEAR
	acres		min				
DA-A	1.86	0.76	5.0	7.5	7.7	9.8	11.2

PRE-DEVELOPMENT DA = 0.74 AC PARKING/BUILDING & 1.12 AC GRASS GOOD COND
POST-DEVELOPMENT DA = 0.21 ACRES BIORETENTION/SWALES SURFACE AREA (FOREST)
= 0.23 ACRES GRADING/SIDE SLOPES (TURF)
= 1.42 ACRES PARKING LOT
= 1.86 ACRES TOTAL

LEGEND
- RIP-RAP OUTFALL
- CULVERT
- POND SURFACE AREA

DIG WITH C.A.R.E. CALL MISS UTILITY KEEP VIRGINIA SAFE

CONTRACTOR SHALL CONTACT MISS UTILITY @ 1-800-552-7001 FOR LOCATION OF ALL UTILITIES, AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.

COMMONWEALTH OF VIRGINIA
LYNETTE L. WUENSCH
Lic. No. 38710
09/29/2016
PROFESSIONAL ENGINEER

EPRPC
Traffic • Transportation • Stormwater • Civil
Civil • Stormwater • Traffic • Transportation
637 BERKMAR CIRCLE
Charlottesville • Virginia
22901 • (804) 647•7701

100% PLANS NOT FOR CONSTRUCTION

POST DEVELOPMENT DRAINAGE MAP

SCALE 0 40' 80'

PROJECT LYNCHBURG STADIUM

SHEET NO. 4.03

PROJECT MANAGER William "Clay" Simmons, P.E. (434) 455-4443
SURVEYED BY, DATE BERKLEY HOWELL & ASSOC., P.C. 11-16-2011
DESIGN BY McCormick Taylor Inc. (804-762-5800)
SUBSURFACE UTILITY BY, DATE

REVISED	STATE	STATE ROUTE	PROJECT	SHEET NO
	VA.		STADIUM NEW PARKING	

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

DEQ Virginia Runoff Reduction Method Re-Development Compliance Spreadsheet - Version 3.0

BMP Design Specifications List: **2013 Draft Stds & Specs**

Update Summary Sheet | Print Preview | Print

Site Summary

Total Rainfall (in):	43
Total Disturbed Acreage:	1.86

Site Land Cover Summary

Pre-ReDevelopment Land Cover (acres)

	A soils	B Soils	C Soils	D Soils	Totals	% of Total
Forest/Open (acres)	0.00	0.00	0.00	0.00	0.00	0
Managed Turf (acres)	0.00	0.00	1.12	0.00	1.12	60
Impervious Cover (acres)	0.00	0.00	0.74	0.00	0.74	40
					1.86	100

Post-ReDevelopment Land Cover (acres)

	A soils	B Soils	C Soils	D Soils	Totals	% of Total
Forest/Open (acres)	0.00	0.00	0.21	0.00	0.21	11 *
Managed Turf (acres)	0.00	0.00	0.23	0.00	0.23	12
Impervious Cover (acres)	0.00	0.00	1.42	0.00	1.42	76
					1.86	100

* Forest/Open Space areas must be protected in accordance with the Virginia Runoff Reduction Method

Site Tv and Land Cover Nutrient Loads

	Final Post-Development (Post-ReDevelopment & New Impervious)	Post-ReDevelopment	Post-Development (New Impervious)	Adjusted Pre-ReDevelopment
Site Rv	0.76	0.65	0.95	0.68
Treatment Volume (ft³)	5,111	2,766	2,345	2,903
TP Load (lb/yr)	3.21	1.74	1.47	1.82

Pre-ReDevelopment TP Load per acre (lb/acre/yr)	Final Post-Development TP Load per acre (lb/acre/yr)	Post-ReDevelopment TP Load per acre (lb/acre/yr)
1.55	1.73	1.47

Total TP Load Reduction Required (lb/yr)	1.47	0.28	1.19

	Final Post-Development Load (Post-ReDevelopment & New Impervious)	Pre-ReDevelopment
TN Load (lb/yr)	22.97	15.49

Site Compliance Summary

Maximum % Reduction Required Below Pre-ReDevelopment Load	20%

Total Runoff Volume Reduction (ft³)	2,032
Total TP Load Reduction Achieved (lb/yr)	1.75
Total TN Load Reduction Achieved (lb/yr)	14.60
Remaining Post Development TP Load (lb/yr)	1.46
Remaining TP Load Reduction (lb/yr) Required	0.00

** TARGET TP REDUCTION EXCEEDED BY 0.28 LB/YEAR **

Drainage Area Summary

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	Total
Forest/Open (acres)	0.21	0.00	0.00	0.00	0.00	0.21
Managed Turf (acres)	0.23	0.00	0.00	0.00	0.00	0.23
Impervious Cover (acres)	1.42	0.00	0.00	0.00	0.00	1.42
Total Area (acres)	1.86	0.00	0.00	0.00	0.00	1.86

Drainage Area Compliance Summary

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	Total
TP Load Reduced (lb/yr)	1.75	0.00	0.00	0.00	0.00	1.75
TN Load Reduced (lb/yr)	14.60	0.00	0.00	0.00	0.00	14.60

Drainage Area A Summary

Land Cover Summary

	A Soils	B Soils	C Soils	D Soils	Total	% of Total
Forest/Open (acres)	0.00	0.00	0.21	0.00	0.21	11
Managed Turf (acres)	0.00	0.00	0.23	0.00	0.23	12
Impervious Cover (acres)	0.00	0.00	1.42	0.00	1.42	76
					1.86	

BMP Selections

Practice	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	BMP Treatment Volume (ft³)	TP Load from Upstream Practices (lbs)	Untreated TP Load to Practice (lbs)	TP Removed (lb/yr)	TP Remaining (lb/yr)	Downstream Treatment to be Employed

Total Impervious Cover Treated (acres)	1.42
Total Turf Area Treated (acres)	0.23
Total TP Load Reduction Achieved in D.A. (lb/yr)	1.75
Total TN Load Reduction Achieved in D.A. (lb/yr)	14.60

Runoff Volume and CN Calculations

	1-year storm	2-year storm	10-year storm
Target Rainfall Event (in)	3.10	3.80	5.80

Drainage Areas	RV & CN	Drainage Area A	Drainage Area B	Drainage Area C	Drainage Area D	Drainage Area E
CN		92	0	0	0	0
RR (ft³)		2,032	0	0	0	0
1-year return period	RV wo RR (ws-in)	2.26	0.00	0.00	0.00	0.00
	RV w RR (ws-in)	1.95	0.00	0.00	0.00	0.00
	CN adjusted	88	0	0	0	0
2-year return period	RV wo RR (ws-in)	2.92	0.00	0.00	0.00	0.00
	RV w RR (ws-in)	2.62	0.00	0.00	0.00	0.00
	CN adjusted	89	0	0	0	0
10-year return period	RV wo RR (ws-in)	4.87	0.00	0.00	0.00	0.00
	RV w RR (ws-in)	4.57	0.00	0.00	0.00	0.00
	CN adjusted	89	0	0	0	0

BIORETENTION AREA ROUTING *Type II 24-hr 1-Year Rainfall=3.00"*
Prepared by Hewlett-Packard Company Printed 9/27/2016
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Summary for Pond 3P: BIORETENTION AREA

[86] Warning: Oscillations may require smaller dt (severity=647)

Inflow Area = 81,022 sf, 76.34% Impervious, Inflow Depth = 1.98" for 1-Year event
Inflow = 6.62 cfs @ 11.96 hrs, Volume= 13,396 cf
Outflow = 0.93 cfs @ 12.17 hrs, Volume= 20,010 cf, Atten= 86%, Lag= 12.8 min
Discarded = 0.48 cfs @ 12.17 hrs, Volume= 18,562 cf
Primary = 0.45 cfs @ 12.17 hrs, Volume= 1,448 cf

Routing by Sim-Route method, Time Span= 1.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 771.27' @ 12.17 hrs Surf.Area= 6,857 sf Storage= 4,918 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 69.4 min (874.8 - 805.4)

Volume	Invert	Avail.Storage	Storage Description
#1	770.50'	10,249 cf	**BIORETENTION (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
770.50	5,911	0	0
772.00	7,754	10,249	10,249

Device	Routing	Invert	Outlet Devices
#1	Discarded	770.50'	**3.000 in/hr Exfiltration over Surface area**
#2	Primary	771.50'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	771.00'	**12.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 2	767.50'	**15.0" Round Culvert** L= 15.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 767.50' / 766.00' S= 0.1000 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf

Discarded OutFlow Max=0.48 cfs @ 12.17 hrs HW=771.27' (Free Discharge)
└1=**Exfiltration** (Exfiltration Controls 0.48 cfs)

Primary OutFlow Max=0.45 cfs @ 12.17 hrs HW=771.27' (Free Discharge)
├2=**Orifice/Grate** (Controls 0.00 cfs)
├4=**Culvert** (Controls 0.00 cfs)
└3=**Orifice/Grate** (Orifice Controls 0.45 cfs @ 1.67 fps)

BIORETENTION AREA ROUTING *Type II 24-hr 1-Year Rainfall=3.00"*
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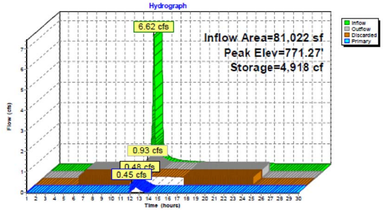
Pond 3P: BIORETENTION AREA



BIORETENTION AREA ROUTING *Type II 24-hr 2-Year Rainfall=3.70"*
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Summary for Pond 3P: BIORETENTION AREA

[86] Warning: Oscillations may require smaller dt (severity=637)

Inflow Area = 81,022 sf, 76.34% Impervious, Inflow Depth = 2.64" for 2-Year event
Inflow = 8.65 cfs @ 11.96 hrs, Volume= 17,796 cf
Outflow = 1.63 cfs @ 12.12 hrs, Volume= 23,816 cf, Atten= 81%, Lag= 9.5 min
Discarded = 0.50 cfs @ 12.12 hrs, Volume= 20,158 cf
Primary = 1.13 cfs @ 12.12 hrs, Volume= 3,658 cf

Routing by Sim-Route method, Time Span= 1.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 771.50' @ 12.12 hrs Surf.Area= 7,138 sf Storage= 6,518 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 53.2 min (850.5 - 797.4)

Volume	Invert	Avail.Storage	Storage Description
#1	770.50'	10,249 cf	**BIORETENTION (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
770.50	5,911	0	0
772.00	7,754	10,249	10,249

Device	Routing	Invert	Outlet Devices
#1	Discarded	770.50'	**3.000 in/hr Exfiltration over Surface area**
#2	Primary	771.50'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	771.00'	**12.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 2	767.50'	**15.0" Round Culvert** L= 15.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 767.50' / 766.00' S= 0.1000 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf

Discarded OutFlow Max=0.50 cfs @ 12.12 hrs HW=771.50' (Free Discharge)
└1=**Exfiltration** (Exfiltration Controls 0.50 cfs)

Primary OutFlow Max=1.13 cfs @ 12.12 hrs HW=771.50' (Free Discharge)
├2=**Orifice/Grate** (Controls 0.00 cfs)
├4=**Culvert** (Controls 0.00 cfs)
└3=**Orifice/Grate** (Orifice Controls 1.13 cfs @ 2.27 fps)

BIORETENTION AREA ROUTING *Type II 24-hr 2-Year Rainfall=3.70"*
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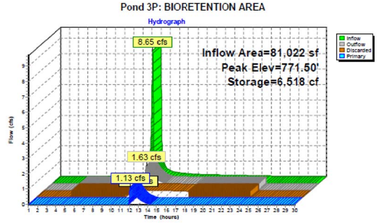
Pond 3P: BIORETENTION AREA



BIORETENTION AREA ROUTING *Type II 24-hr 10-Year Rainfall=5.80"*
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Summary for Pond 3P: BIORETENTION AREA

[86] Warning: Oscillations may require smaller dt (severity=572)

Inflow Area = 81,022 sf, 76.34% Impervious, Inflow Depth = 4.65" for 10-Year event
Inflow = 14.70 cfs @ 11.96 hrs, Volume= 31,404 cf
Outflow = 6.75 cfs @ 12.05 hrs, Volume= 35,739 cf, Atten= 54%, Lag= 5.6 min
Discarded = 0.54 cfs @ 12.05 hrs, Volume= 23,766 cf
Primary = 6.21 cfs @ 12.05 hrs, Volume= 11,973 cf

Routing by Sim-Route method, Time Span= 1.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 771.99' @ 12.05 hrs Surf.Area= 7,745 sf Storage= 10,194 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 29.8 min (811.4 - 781.6)

Volume	Invert	Avail.Storage	Storage Description
#1	770.50'	10,249 cf	**BIORETENTION (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
770.50	5,911	0	0
772.00	7,754	10,249	10,249

Device	Routing	Invert	Outlet Devices
#1	Discarded	770.50'	**3.000 in/hr Exfiltration over Surface area**
#2	Primary	771.50'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	771.00'	**12.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 2	767.50'	**15.0" Round Culvert** L= 15.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 767.50' / 766.00' S= 0.1000 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf

Discarded OutFlow Max=0.54 cfs @ 12.05 hrs HW=771.99' (Free Discharge)
└1=**Exfiltration** (Exfiltration Controls 0.54 cfs)

Primary OutFlow Max=6.21 cfs @ 12.05 hrs HW=771.99' (Free Discharge)
├2=**Orifice/Grate** (Passes 4.15 cfs of 9.04 cfs potential flow)
├4=**Culvert** (Inlet Controls 4.15 cfs @ 3.38 fps)
└3=**Orifice/Grate** (Orifice Controls 2.06 cfs @ 4.13 fps)

BIORETENTION AREA ROUTING *Type II 24-hr 10-Year Rainfall=5.80"*
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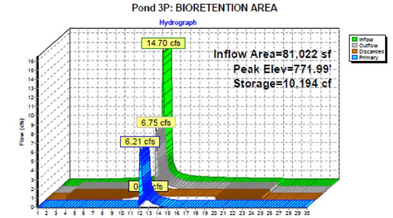
Pond 3P: BIORETENTION AREA



CONTRACTOR SHALL CONTACT MISS UTILITY @ 1-800-552-7001 FOR LOCATION OF ALL UTILITIES, AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.

COMMONWEALTH OF VIRGINIA
LYNETTE L. WUENSCH
Lic. No. 38710
09/29/2016
PROFESSIONAL ENGINEER

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Traffic • Transportation • Stormwater • Civil
Civil • Stormwater • Traffic • Transportation
637 BERKMAR CIRCLE
Charlottesville • Virginia
22901 • (804) 647-7701

100% PLANS NOT FOR CONSTRUCTION

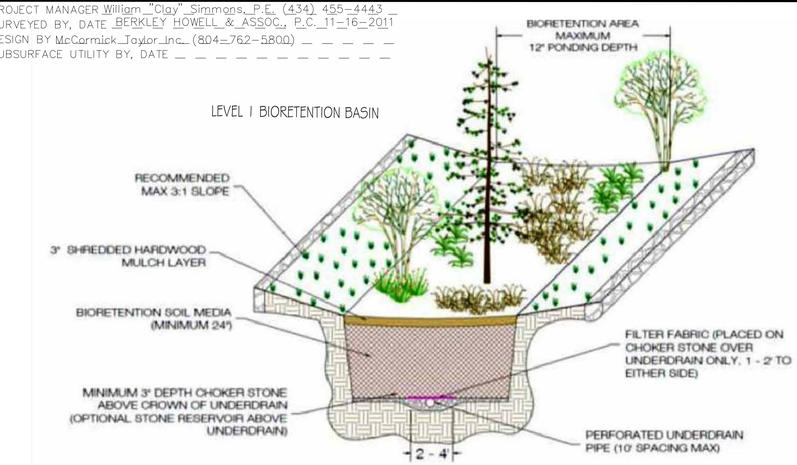
DRAINAGE CALCULATIONS

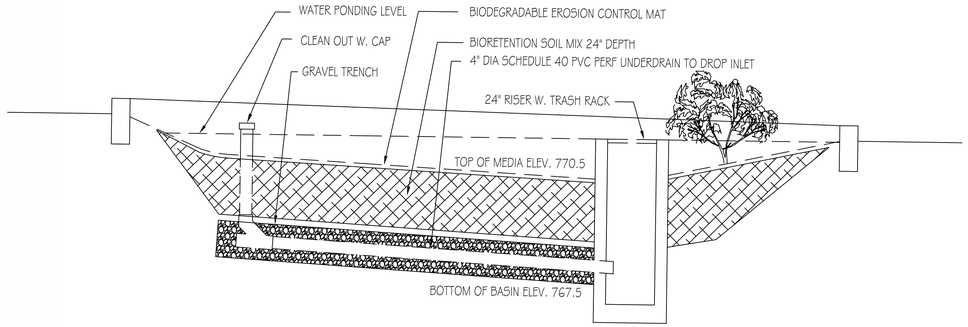
SCALE	PROJECT	SHEET NO.
0 40' 80'	LYNCHBURG STADIUM	4.04

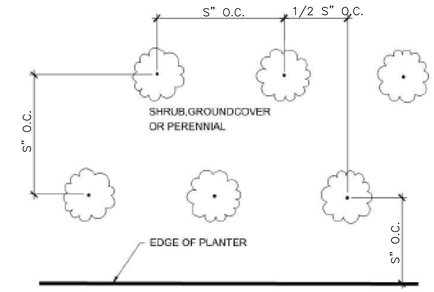
PROJECT MANAGER William "Clay" Simmons, P.E. (434) 455-4443
SURVEYED BY, DATE BERKLEY HOWELL & ASSOC., P.C. 11-16-2011
DESIGN BY McCarmick_Taylor_Inc. (804-762-5800)
SUBSURFACE UTILITY BY, DATE

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO
	VA.		STADIUM NEW PARKING	

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT







NOTE: "S" INDICATES SPACING SHOWN ON BIORETENTION AREA PLANT SCHEDULE MASS PLANTING DETAIL

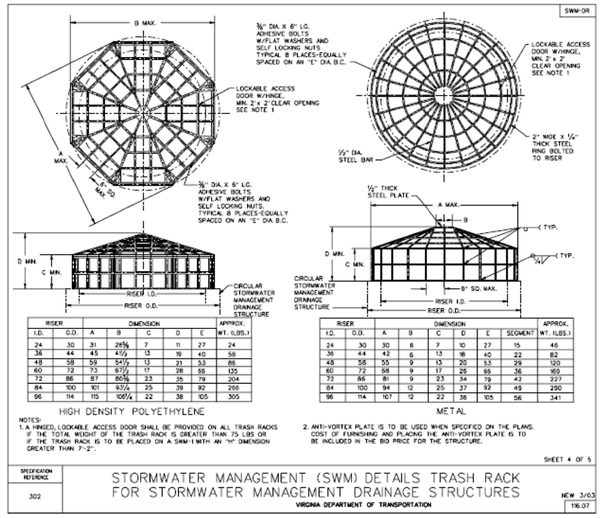
BIORETENTION AREA PLANT SCHEDULE

QTY	KEY	BOTANICAL NAME	COMMON NAME	SIZE	STOCK	10 YR CANOPY COVERAGE
SHRUBS						
20	CA	Clethra alnifolla "Sixteen Candles"	SWEET PEPPERBUSH	24" HT	#2 CONT.	3' O.C.
7	IV	Ilex verticillatta	COMMON WINTERBERRY	24" HT	#2 CONT.	3' O.C.
15	RV	Rhondodendron viscosum	SWAMP AZALEA	24" HT	#2 CONT.	3' O.C.
13	VD	Virburnum dentatum	ARROWWOOD VIBURNUM	24" HT	#2 CONT.	5' O.C.

BIORETENTION PLANTER MIX SOIL SPECIFICATIONS

FOR PLANTING MIX AT BIORETENTION AREAS:

1. PLANTING SOIL
   THE BIORETENTION AREAS SHALL CONTAIN A PLANTING SOIL MIXTURE OF 85% SAND, 5% LEAF COMPOST (FULLY COMPOSTED, NOT PARTIALLY ROTTED LEAVES), AND 10% TOPSOIL (SOIL FINES). TOPSOIL SHALL BE SANDY LOAM OR LOAMY SAND OF UNIFORM COMPOSITION, CONTAINING NO MORE THAN 5% CLAY, FREE OF STONES, STUMPS, ROOTS, OR SIMILAR OBJECTS. GREATER THAN ONE INCH, BRUSH, OR ANY OTHER MATERIAL OR SUBSTANCE WHICH MAY BE HARMFUL TO PLANT GROWTH, OR A HINDRANCE TO PLANT GROWTH OR MAINTENANCE. THE TOPSOIL SHALL BE FREE OF PLANTS OR PLANT PARTS OF BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, MUGWORT, NUTSEDGE, POISON IVY, CANADIAN THISTLE, OR OTHERS AS SPECIFIED. IT SHALL NOT CONTAIN TOXIC SUBSTANCES HARMFUL TO PLANT GROWTH. THE TOP SOILS SHALL BE TESTED AND MEET THE FOLLOWING CRITERIA:
   - PH RANGE: 5.0-7.0
   - ORGANIC MATTER: GREATER THAN 1.5
   - MAGNESIUM (MG): 100+ UNITS
   - PHOSPHORUS (P2O5): 150+ UNITS
   - POTASSIUM (K2O): 1250+ UNITS
   - SOLUBLE SALTS: NOT TO EXCEED 900 PPM/.9 MMHOS/CM (SOIL), NOT TO EXCEED 3,000 PPM/2.5 MMHOS/CM (ORGANIC MIX)
2. MULCH
   A MULCH LAYER SHALL BE PROVIDED ON TOP OF THE PLANTING SOIL. AN ACCEPTABLE MULCH LAYE SHALL INCLUDE SHREDDED HARDWOOD OR SHREDDED WOOD CHIPS OR OTHER SIMILAR PRODUCT. OF THE APPROVED MULCH PRODUCTS ALL MUST BE WELL AGED, UNIFORM IN COLOR, AND FREE OF FOREIGN MATERIAL INCLUDING PLANT MATERIAL.
3. COMPACTION:
   SOIL SHALL BE PLACED IN LIFTS LESS THAN 18 INCHES AND LIGHTLY COMPACTED (MINIMAL COMPACTIVE EFFORT) BY TAMPING OR ROLLED WITH A HAND OPERATED LANDSCAPE ROLLER.



RISER I.D.	RISER O.D.	DIMENSION A	B	C	D	E	APPROX. WT. (LBS.)
24	30	31	28⅝	7	11	27	24
36	44	45	41½	13	19	40	58
48	58	59	54½	13	21	53	86
60	72	73	67½	17	28	66	135
72	86	87	80⅝	23	35	79	204
84	100	101	93¼	25	39	92	266
96	114	115	106¼	22	38	105	305

RISER I.D.	RISER O.D.	DIMENSION A	B	C	D	E	SEGMENT	APPROX. WT. (LBS.)
24	30	30	6	7	10	27	15	46
36	44	43	6	13	18	40	22	82
48	58	55	9	13	20	53	29	120
60	72	68	9	17	25	65	36	169
72	86	81	9	23	34	79	43	227
84	100	94	12	25	37	92	49	290
96	114	107	12	22	38	105	56	341

BIORETENTION LEVEL 1 DESIGN STORAGE DEPTH FOR CITY OF LYNCHBURG STADIUM PARKING EXPANSION
DA-A
12 INCHES PONDING DEPTH
24 INCHES SOIL MEDIA DEPTH
12 INCHES GRAVEL DEPTH

(1.0 FT X 1.0 PONDING DEPTH)+(2 FT X 0.25 SOIL MEDIA DEPTH) + (1 FT X 0.40 GRAVEL DEPTH) = 1.90 FT

SA (SQ-FT) = Tvbmp/1.90 FT

SURFACE AREA = MINIMUM SURFACE AREA FOR BIORETENTION FILTER (SQ-FT)
Tvbmp = LEVEL 1 BMP DESIGN TREATMENT VOLUME (CU-FT)
Tvbmp = [(1.0 INCHES)(Rv)(A)/12]; A=SQ-FT

Rv coefficents

Forest/Open Space	0.03
Managed Turf	0.20
Impervious Cover	0.95

Site Area to Bioretention

0.21 acres
0.23 acres
1.42 acres
1.86 acres

Rv = (0.21 ACRES X 0.03) + (0.23 ACRES X 0.20) + (1.42 ACRES X 0.95)/1.86 ACRES
Rv = 0.75

Tvbmp = [(1.0 INCHES)(0.75)(1.86 ACRES*3630)]
Tvbmp = 5087 CU-FT

SA = 5087 CU-FT/1.90 FT
SA = 2677 SQ-FT
SA REQUIRED 2677 SQ-FT, PROVIDED 7458 SQ-FT

Energy Balance Calculations

Pre-Development Conditions	
ID	DA-A
Project Area	1.86 acres
Land Condition	Developed
Soil Type	C
Pre-Development Q=	4.6 cfs
1-yr rainfall	3.1 inches
CN	83.5
Runoff Volume	1.56 inches

S=1000/CN-10
S = 1000/88 -10 = 1.36 inches

Q = (P-0.2S)^2/(P+0.8S)
Q= (3.10-(0.2*1.36)^2/(3.10+(0.8*1.36))
Q = 1.91 in Runoff depth

Vrpost1 = Q x A x 1/12
Vrpost1 = 1.96 x 1.86 x 1/12
Vrpost1 = 0.31 ac-ft

Post Development	
ID	DA-A
Project Area	1.86 acres
Land Condition	1.42 acres Impervious
	0.21 acres Forest (Bioretention surface area)
	0.23 acres Turf
Soil Type	C
1-yr Rainfall	3.1 inches
Adjusted CN	88

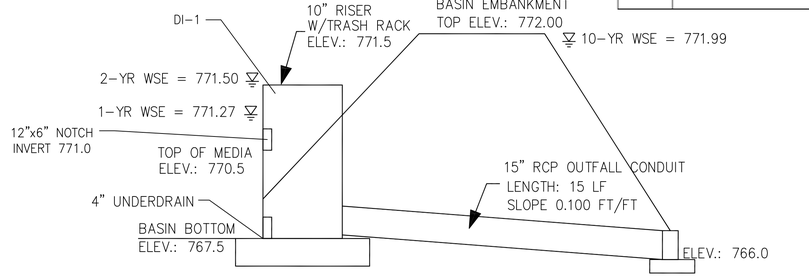
Vrpre1 = Q x A x 1/12
Vrpre1 = 1.56 x 1.86 x 1/12

Vrpre1 = 0.24 ac-ft

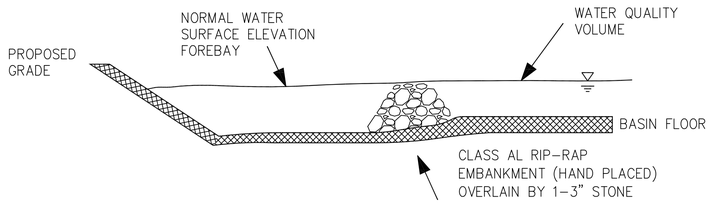
q1post <= q1pre (Vrpre1/Vrpost1)(IF)
q1post <= 4.6 (0.24/0.31)(0.8)
q1post <= 2.85 cfs

Post Development release rate cannot exceed 2.85 cfs

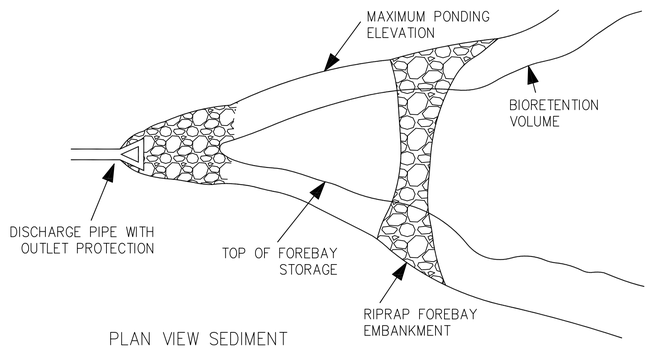
The Bioretention Area for DA-A has an outflow of 0.64 cfs for the 1-year event with 9,935 cu-ft of available storage



BIORETENTION AREA
SCHEMATIC ILLUSTRATION OF PRINCIPAL AND EMERGENCY SPILLWAY CONFIGURATION AND RESULTING WATER SURFACE ELEVATIONS
N.T.S.



CROSS-SECTION VIEW SEDIMENT FOREBAY
N.T.S.



PLAN VIEW SEDIMENT FOREBAY
N.T.S.

COMMONWEALTH OF VIRGINIA
LYNETTE L. WUENSCH
Lic. No. 38710
09/29/2016
PROFESSIONAL ENGINEER

EPRPC
Traffic • Transportation • Stormwater • Civil
Civil • Stormwater • Traffic • Transportation
637 BERKMAR CIRCLE
Charlottesville • Virginia
22901 • (804) 647-7701

CONTRACTOR SHALL CONTACT MISS UTILITY @ 1-800-552-7001 FOR LOCATION OF ALL UTILITIES, AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.

60% PLANS NOT FOR CONSTRUCTION

SUPPORTING DETAILS

SCALE	PROJECT	SHEET NO.
0 40' 80'	LYNCHBURG STADIUM	4.05

PROJECT MANAGER William "Clay" Simmons, P.E. (434) 455-4443
SURVEYED BY, DATE BERKLEY HOWELL & ASSOC., P.C. 11-16-2011
DESIGN BY McCormick Taylor Inc. (804-762-5800)
SUBSURFACE UTILITY BY, DATE

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO
	VA.	×	STADIUM NEW PARKING ×××	×

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

EROSION AND SEDIMENT CONTROL AND STORMWATER NARRATIVE AND STORMWATER POLLUTION PROTECTION PLAN

A. PROJECT DESCRIPTION

GENERAL
THE PURPOSE OF THIS PROJECT IS TO CONSTRUCT ADDITIONAL PARKING FOR THE EXISTING STADIUM SITE IN THE CITY OF LYNCHBURG. THE TOTAL DISTURBED AREA FOR THIS PROJECT IS 1.86 ACRES. THE EXISTING SITE IS COMPRISED OF ONE STRUCTURE AND ASSOCIATED PARKING. THE EXISTING SITE WAS THE HOME OF THE ANIMAL SHELTER AND STORAGE FOR THE CITY OF LYNCHBURG LANDSCAPING PLANTINGS. THE EXISTING SITE IS 1.12 ACRES TURF AND 0.74 ACRES IMPERVIOUS. THE PROPOSED IMPROVEMENTS WILL CONVERT THE SITE TO 0.21 ACRES FOREST (SURFACE AREA OF BIORETENTION AREA), 0.23 ACRES TURF, AND 1.42 ACRES IMPERVIOUS. THE PROPOSED IMPROVEMENTS WILL INCORPORATE BIORETENTION INTO THE DESIGN IMPROVEMENTS.

INTENDED SEQUENCE
MAJOR COMPONENTS OF THE PROJECT WHICH DISTURB SOILS ARE ANTICIPATED TO OCCUR AS FOLLOWS:
PHASE I (E&S CONTROL MEASURES WILL APPLY TO ALL PHASES OF THE PROJECT)
A. INSTALL EROSION CONTROL MEASURES - SILT FENCE AND INLET PROTECTION.
B. REMOVE TOPSOIL AND STOCKPILE IN AREAS AS DETERMINED IN THE FIELD BASED ON SEQUENCE OF CONSTRUCTION. LOCATIONS SHALL BE APPROVED BY THE CITY OF LYNCHBURG.
C. DEMOLISH AND REMOVE REQUIRED MATERIALS SUCH AS PAVEMENT, SIDEWALK AND CURB AND GUTTER.
D. INSTALL NEW IMPROVEMENTS SUCH AS CURB AND GUTTER AND PAVEMENT WIDENING.
E. PERFORM FINAL GRADING, REPLACE TOPSOIL, & PROVIDE PERMANENT STABILIZATION FOR ALL DISTURBED AREAS.

B. EXISTING SITE CONDITIONS
THE PROPOSED IMPROVEMENTS WILL BE CONSTRUCTED ON THE EXISTING ANIMAL SHELTER SITE LOCATED TO THE SOUTH OF THE EXISTING PARKING LOT.

C. ADJACENT AREAS
ALL IMPROVEMENTS ARE LOCATED IN THE CITY OF LYNCHBURG AND ARE SURROUNDED BY THE STADIUM SITE TO THE NORTH, AND NAVAL RESERVE STREET TO THE EAST AND SOUTH. IT IS NOT ANTICIPATED THAT THIS PROJECT WILL HAVE ANY IMPACT ON THE ADJACENT AREAS. ALL CONSTRUCTION ACTIVITIES WILL BE CONFINED TO THE PROPERTIES OWNED BY THE CITY OF LYNCHBURG AND WITHIN TEMPORARY CONSTRUCTION EASEMENTS.

D. OFF-SITE AREAS
SURPLUS MATERIAL THAT IS NOT SUITABLE FOR USE AS FILL MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE AN APPROVED EROSION AND SEDIMENT CONTROL PLAN FOR THOSE LOCATIONS. BORROW MATERIAL IS ALSO ANTICIPATED AND SHALL BE OBTAINED BY THE CONTRACTOR FROM APPROVED SOURCES.

E. SOILS
THE FOLLOWING INFORMATION IS BASED ON THE SOILS MAP FOUND IN THE SOIL SURVEY OF CAMPBELL COUNTY/ CITY OF LYNCHBURG, VIRGINIA. THE SITE SOILS ARE CLASSIFIED AS FOLLOWS:

Campbell County and the City of Lynchburg, Virginia

UL—Urban land

Map Unit Setting

- National map unit symbol: 41nw
- Mean annual precipitation: 34 to 52 inches
- Mean annual air temperature: 46 to 67 degrees F
- Frost-free period: 180 to 220 days
- Farmland classification: Not prime farmland

Map Unit Composition

- Urban land: 100 percent

F. CRITICAL AREAS
CUT & FILL SLOPES ARE MINIMAL IN LENGTH AND SHALL NOT BE STEEPER THAN 2:1. CROSS DRAINAGE IS ALSO MINIMUM DUE TO SMALL DRAINAGE AREAS ASSOCIATED WITH THE PROJECT. THERE ARE NOT ANY CRITICAL AREAS ANTICIPATED.

G. EROSION AND SEDIMENT CONTROL MEASURES
THE CONSTRUCTION-PHASE EROSION AND SEDIMENT CONTROLS SHALL BE DESIGNED TO RETAIN SEDIMENT ON SITE TO THE MAXIMUM EXTENT PRACTICABLE. ALL CONTROL MEASURES MUST BE PROPERLY SELECTED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS' SPECIFICATIONS AND GOOD ENGINEERING PRACTICES. IF PERIODIC INSPECTIONS OR OTHER INFORMATION INDICATES A CONTROL HAS BEEN USED INAPPROPRIATELY OR INCORRECTLY, THE PERMITTEE MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT MUST BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFF-SITE IMPACTS (E.G. FUGITIVE SEDIMENT IN STREET COULD BE WASHED INTO STORM SEWERS BY THE NEXT RAIN AND/OR POSE A SAFETY HAZARD TO USERS OF PUBLIC STREETS). LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORM WATER SHALL BE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORM WATER DISCHARGES (E.G., SCREENING OUTFALLS, PICKED UP DAILY).

THE FOLLOWING MEASURES WILL BE USED TO CONTROL EROSION AND SEDIMENT-LADEN RUNOFF ON THIS PROJECT. SEE PLAN SHEETS FOR LOCATIONS OF SPECIFIC EROSION CONTROL MEASURES.
1. SILT FENCE WILL BE PROVIDED TO PREVENT SEDIMENT LADEN RUNOFF FROM LEAVING THE SITE DURING CONSTRUCTION.
2. TOPSOILING: WILL PROVIDE A SUITABLE GROWTH MEDIUM FOR FINAL SITE STABILIZATION WITH VEGETATION. (VESCH STANDARD AND SPEC. 3.30)
3. TEMPORARY SEEDING: PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN 30 DAYS. (VESCH STANDARD AND SPEC. 3.31)
4. PERMANENT SEEDING: WILL BE USED TO ESTABLISH VEGETATIVE COVER AND TO REDUCE SILT RUNOFF FOR ANY AREAS NOT PAVED OR ROOFED. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR. (VESCH STANDARD AND SPEC. 3.32)
5. DUST CONTROL: SHALL BE PROVIDED IN ACCORDANCE WITH VESCH STANDARD AND SPEC. 3.39)

SUPPLEMENTARY E&S STRUCTURES SHALL BE CONSTRUCTED AS REQUIRED BY THE EROSION CONTROL INSPECTOR, OR AS NECESSARY TO ADEQUATELY CONTROL EROSION AND SEDIMENT DEPOSITION. E&S STRUCTURES MAY BE REMOVED ONLY WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE BUT NOT BEFORE THE UPSTREAM/UPSLOPE AREA HAS BEEN STABILIZED.

H. STABILIZATION PRACTICES
1. GENERAL - NO SPECIFIC SCHEDULE OTHER THAN THOSE GUIDELINES GIVEN IN THE ABOVE DESCRIPTIONS OF THE VEGETATIVE PRACTICES WILL BE USED FOR TEMPORARY AND PERMANENT SEEDING MEASURES.

A. CONTRACTOR SHALL PROVIDE A LOG OF ALL MAJOR GRADING ACTIVITIES, ANY CESSATION, TEMPORARY OR PERMANENT, OF CONSTRUCTION ACTIVITY , AND WHEN STABILIZATION MEASURES ARE IMPLEMENTED. THIS RECORD SHALL BE KEPT THROUGHOUT THE DURATION OF THE PROJECT. THE PERMITTEE SHALL ENSURE THAT THESE RECORDS ARE UPDATED, MAINTAINED, AND BECOME A PERMANENT PART OF THIS OVERALL PLAN.

B. CONSTRUCTION SHALL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE. STABILIZATION MEASURES SHALL BE IMPLEMENTED ON DISTURBED AREAS AS SOON AS PRACTICABLE. EMBANKMENT WALLS, UPON REACHING FINAL GRADE, MUST BE IMMEDIATELY SEEDED AND FERTILIZED TO ENSURE PROPER STABILIZATION. PERMANENT SEEDING SHALL BE INSTALLED WITHIN 7 DAYS OF REACHING FINAL GRADE. DENUDED AREAS THAT ARE NOT AT FINAL GRADE BUT WILL REMAIN DORMANT FOR MORE THAN 30 DAYS SHALL BE TEMPORARILY SEEDED. AREAS THAT ARE NOT TO BE DISTURBED MUST BE CLEARLY MARKED BY FLAGS, SIGNS, ETC.

2. PERMANENT STABILIZATION - AFTER THE CONSTRUCTION IS COMPLETED, THE SITE WILL BE PERMANENTLY STABILIZED WITH PERMANENT SEEDING IN ACCORDANCE WITH VESCH STANDARD AND SPECIFICATION 3.32.

I. STORMWATER MANAGEMENT NARRATIVE (QUANTITY AND QUALITY)
THE DISTURBED AREA FOR THE STADIUM PARKING LOT EXPANSION PROJECT IS 1.86 ACRES. THIS AREA WILL BE REQUIRED TO MEET THE WATER QUALITY AND QUANTITY MEASURES FOR REDEVELOPMENT. THE WATER QUALITY AND QUANTITY WILL BE MET BY PROVIDING BIORETENTION IN THE SOUTH CORNER OF THE SITE PRIOR TO DISCHARGING INTO THE EXISTING STORMSEWER SYSTEM ON NAVAL RESERVE STREET.

J. OTHER CONTROLS

1. MATERIALS, GARBAGE, DEBRIS
NO SOLID MATERIALS, INCLUDING BUILDING MATERIALS, GARBAGE, AND DEBRIS SHALL BE DISCHARGED TO SURFACE WATERS OF THE STATE. THE PERMITTEE SHALL ENSURE THAT THESE ITEMS ARE NOT LEFT IN A LOCATION WHERE THEY COULD BE TRANSPORTED BY STORMWATER RUNOFF OFF THE SITE.

2. COMPLIANCE WITH STATE & LOCAL WASTE, SANITARY, AND/OR SEPTIC REGULATIONS
NO TEMPORARY SEWER FACILITIES ARE PLANNED FOR THE SITE DURING CONSTRUCTION.

3. EXPECTED CONSTRUCTION AND WASTE MATERIALS
CONSTRUCTION AND WASTE MATERIALS THAT COULD POTENTIALLY BE STORED ON SITE INCLUDE TOPSOIL, FILL DIRT, EXCAVATED MATERIAL, FERTILIZER FOR SEEDING OPERATIONS, FUEL, AND SILT FENCE MATERIAL.

ANY STOCKPILES OF TOPSOIL, EXCAVATED MATERIAL OR FILL DIRT THAT ARE NEEDED SHALL BE SURROUNDED ON THE DOWNSLOPE SIDE BY SILT FENCE. FERTILIZER MUST BE KEPT IN WATERTIGHT CONTAINERS, PREFERABLY IN PORTABLE STORAGE UNITS AND AWAY FROM EXPOSURE TO THE WEATHER, DURING STORAGE ON SITE. CARE MUST BE TAKEN TO MINIMIZE SPILLAGE OF FERTILIZER IF MIXING OPERATIONS ARE REQUIRED TO PREPARE THE FERTILIZER FOR APPLICATION.

IF OVERNIGHT STORAGE OF FUEL IS REQUIRED, THE FUEL STORAGE CONTAINER MUST BE EQUIPPED WITH A FUELING MECHANISM DISABLE DEVICE. TO MINIMIZE THE AFFECT OF ANY POTENTIAL SPILLS, MAINTAIN ALL ON-SITE FUELING OPERATIONS AS FAR AWAY FROM SURROUNDING SURFACE WATERS AND DRAINAGE FACILITIES AS IS PRACTICAL. DAILY INSPECTIONS OF THE FUEL STORAGE CONTAINER MUST BE IMPLEMENTED TO DETECT THE PRESENCE OF LEAKS. THE FUELING OPERATOR SHALL HAVE A SAFE FILL, SHUTDOWN, AND TRANSFER PROCEDURE IN PLACE TO MINIMIZE SPILLAGE DURING FUELING ACTIVITIES. THE OPERATOR MUST MAINTAIN A FULLY EQUIPPED SPILL KIT ON SITE AT ALL TIMES WITH THE STORED FUEL. THE KIT MUST ATLEAST INCLUDE ABSORBENT MATS OR MATERIAL TO CLEANUP ANY SPILLED FUEL. FOR ANY FUEL SPILL ON SITE EQUAL TO OR EXCEEDING 25 GALLONS, IMMEDIATELY CREATE AN APPROPRIATELY SIZED BERM AROUND THE AREA OF SPILLAGE TO MINIMIZE SURFACE MOVEMENT OF THE FUEL. CONTACT LOCAL HAZMAT AUTHORITIES, THE ENGINEER, AND THE REGIONAL DEQ OFFICE AS QUICKLY AS POSSIBLE TO REPORT THE SPILL AND SEEK FURTHER ASSISTANCE WITH SPILL CLEANUP.

CONSTRUCTION MATERIALS THAT COULD BE CARRIED OFFSITE BY STORMWATER (PLASTICS, PAPER, ETC) SHALL BE PICKED UP DAILY AND PLACED IN APPROPRIATE WASTE DISPOSAL CONTAINERS.

K. APPROVED STATE/LOCAL PLANS
THE STORMWATER POLLUTION PREVENTION PLAN IS CONSISTENT WITH AND INTEGRATED WITH THE EROSION AND SEDIMENT CONTROL NARRATIVE PREPARED FOR THIS PROJECT, WHICH HAS BEEN SUBMITTED TO THE APPROPRIATE REVIEWING AUTHORITIES FOR APPROVAL.

L. MAINTENANCE
ALL EROSION AND SEDIMENT CONTROL STRUCTURES AND SYSTEMS SHALL BE MAINTAINED, INSPECTED, AND REPAIRED AS NEEDED TO ENSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. IN GENERAL, ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED AT LEAST EVERY 14 DAYS AND AFTER EACH RAIN EVENT OVER 0.5 INCHES OF PRECIPITATION. THE FOLLOWING ITEMS SHALL BE CHECKED IN PARTICULAR:

1. THE SEEDED AREAS SHALL BE CHECKED EVERY 7 DAYS TO ENSURE THAT A GOOD STAND OF GRASS IS MAINTAINED. GRASSED AREAS SHOULD BE FERTILIZED AND RESEEDED AS NEEDED.

SPECIFIC REQUIREMENTS RELATED TO INSPECTION AND MAINTENANCE OF EACH EROSION CONTROL MEASURE ARE DISCUSSED IN THE VESCH STANDARDS AND SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF ALL EROSION CONTROL MEASURES TO THE SATISFACTION OF LOCAL REVIEW AUTHORITIES, AS WELL AS THE INSTALLATION OF ADDITIONAL MEASURES AS NEEDED TO ENSURE THAT SEDIMENT-LADEN RUNOFF DOES NOT LEAVE THE SITE.

M. INSPECTION
DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN FINALLY STABILIZED, AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION, STRUCTURAL CONTROL MEASURES, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED AT LEAST ONCE EVERY 14 CALENDAR DAYS AND WITHIN 48 HOURS OF THE END OF A STORM EVENT THAT IS 0.5 INCHES OR GREATER. IN THOSE AREAS THAT HAVE BEEN FINALIZED, TEMPORARILY STABILIZED, OR RUNOFF IS UNLIKELY DUE TO WINTER CONDITIONS, INSPECTIONS SHALL TAKE PLACE AT LEAST ONCE A MONTH.

DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM. E&SC MEASURES SHALL BE CHECKED TO SEE THEY ARE OPERATING CORRECTLY. AT ACCESSIBLE DISCHARGE POINTS, INSPECTION SHALL TAKE PLACE TO ENSURE THESE CONTROL MEASURES ARE EFFECTIVE AT PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATERS. NEARBY DOWNSTREAM LOCATIONS SHALL BE INSPECTED IF DISCHARGE POINTS ARE INACCESSIBLE.

IF EXISTING CONTROL MEASURES OR REQUIRE MODIFICATION OR ADDITIONAL MEASURES, SUCH CHANGES SHALL BE MADE WITHIN 7 CALENDAR DAYS OF THE INSPECTION OR BEFORE THE NEXT ANTICIPATED STORM EVENT, AS IMPLEMENTATION IS PRACTICABLE.

INCLUDE INSPECTION REPORTS OF ALL STORMWATER AND EROSION & SEDIMENT CONTROL MEASURES ALONG WITH ANY REQUIRED ACTIONS AS A RESULT OF INSPECTIONS, WITH THE STORMWATER POLLUTION PREVENTION PLAN. THESE REPORTS SHALL INCLUDE THE NAME AND QUALIFICATIONS OF THE INSPECTOR, DATES OF INSPECTION, MAJOR OBSERVATIONS AND ACTIONS TAKEN IN RESPONSE TO INSPECTIONS. MAJOR OBSERVATIONS INCLUDE THE LOCATION OF DISCHARGE OF SEDIMENT OR POLLUTANT FROM THE SITE. THESE REPORTS SHALL INCLUDE INCIDENTS OF NONCOMPLIANCE. IF THE REPORT DOES NOT INCLUDE ANY NONCOMPLIANCE INCIDENTS, THE REPORT SHALL CONTAIN A CERTIFICATION THAT THE FACILITY IS IN COMPLIANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN AND PERMIT.

N. NON-STORM WATER DISCHARGES
NO NON-STORM WATER DISCHARGES OTHER THAN THOSE PERMITTED BY THE VPDES GENERAL PERMIT FOR STORMWATER DISCHARGE FROM CONSTRUCTION ACTIVITIES ARE ANTICIPATED DURING THIS PROJECT.

O. SEQUENCE OF CONSTRUCTION
1. FLAG THE WORK LIMITS. INSTALL SAFETY FENCE AROUND BIORETENTION AREAS, FOR LARGE EQUIPMENT SHOULD NOT BE PARKED OVER OR RUN THROUGH AN AREA INTENDED TO BE USED AS A BIORETENTION BASIN.
2. INSTALL SILT FENCE.
3. COMPLETE SITE CLEARING.
4. ROUGH GRADE SITE, STOCKPILE TOPSOIL.
5. LEAVE THE SURFACE SLIGHTLY ROUGHENED AND VEGETATE AND MULCH IMMEDIATELY.
6. COMPLETE FINAL GRADING FOR ROADS AND PARKING AND STABILIZE WITH GRAVEL.
7. COMPLETE FINAL GRADING OF GROUNDS, TOPSOIL CRITICAL AREAS, AND PERMANENTLY VEGETATE, LANDSCAPE, AND MULCH.
8. ALL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE INSPECTED WEEKLY AND AFTER RAINFALL EVENTS. NEEDED REPAIRS WILL BE MADE IMMEDIATELY.
9. EROSION CONTROL DEVICES SHALL REMAIN IN PLACE UNTIL RELEASED BY THE GOVERNING AGENCY.
10. AFTER SITE IS STABILIZED, REMOVE ALL TEMPORARY MEASURES AND INSTALL PERMANENT VEGETATION ON THE DISTURBED AREAS.
11. WHEN DEWATERING, MAKE CERTAIN THAT THERE ARE NO SIGNS OF EROSION AT THE DISCHARGE, AND FOLLOW THE METHODS OUTLINED IN THE 1992 VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH) DEWATERING SECTION.
12. CONSTRUCT BIORETENTION AREAS AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.
13. INSTALL OUTFALL STRUCTURE IN BIORETENTION AREA. SEED, MULCH, AND TACK JUTE OR OTHER SUITABLE MATTING TO THE BOTTOM OF THE POND.
14. FINAL LANDSCAPING AND STABILIZATION SHOULD BE PERFORMED ACCORDING TO THE 1992 VESCH LANDSCAPING SECTION.

BELOW ARE THE VIRGINIA EROSION AND SEDIMENT CONTROL MINIMUM STANDARDS. IF PLAN DETAILS AND SPECIFICATIONS ARE MORE STRINGENT, THEN THEY SHALL SUPERSEDE THE MINIMUM STANDARDS.

MINIMUM STANDARDS (MS-19):
ALL APPLICABLE VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS AND MINIMUM STANDARDS SHALL BE ADHERED TO DURING ALL PHASES OF CONSTRUCTION. THESE INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:

1. STABILIZATION OF DENUDED AREAS:
THE CONTRACTOR SHALL APPLY PERMANENT OR TEMPORARY SOIL STABILIZATION TO BARE AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE, BUT WILL REMAIN DORMANT OR UNDISTURBED FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED AT AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN 1 YEAR.

2. STABILIZATION OF SOIL STOCKPILES:
DURING CONSTRUCTION OF THE PROJECT, THE CONTRACTOR SHALL STABILIZE OR PROTECT SOIL STOCKPILES WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.

3. PERMANENT VEGETATIVE COVER
THE CONTRACTOR SHALL ESTABLISH A PERMANENT VEGETATIVE COVER ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVE THAT, IN THE OPINION OF THE COUNTY INSPECTOR, IS UNIFORM AND MATURE ENOUGH TO SURVIVE TO INHIBIT EROSION.

4. TIMING & STABILIZATION OF SILT TRAPPING MEASURES:
SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.

5. STABILIZATION OF EARTHEN STRUCTURES:
THE CONTRACTOR SHALL APPLY STABILIZATION MEASURES TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.

6. SEDIMENT TRAPS AND BASINS:
A SEDIMENT BASIN SHALL CONTROL SURFACE RUNOFF FROM DISTURBED AREAS THAT IS COMPRISED OF FLOW FROM DRAINAGE AREAS GREATER THAN OR EQUAL TO THREE ACRES. THE SEDIMENT BASIN SHALL BE DESIGNED AND CONSTRUCTED TO ACCOMMODATE THE ANTICIPATED SEDIMENT LOADING FOR THE LAND DISTURBING ACTIVITY. THE OUTFALL DEVICE OR SYSTEM DEVICE SHALL TAKE INTO ACCOUNT THE TOTAL DRAINAGE AREA FLOWING THROUGH THE DISTURBED AREA TO BE SERVED BY THE BASIN.

7. CUT AND FILL SLOPES:
CUT AND FILL SLOPES SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED.

8. CONCENTRATED RUN-OFF DOWN CUT OR FILL SLOPES:
CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME, OR SLOPE DRAIN STRUCTURE.

9. WATER SEEPS FROM A SLOPE FACE:
WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.

10. STORM SEWER INLET PROTECTION:
ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.

11. STABILIZATION OF OUTLETS:
BEFORE NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED BY THE CONTRACTOR IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.

12. WORK IN LIVE WATERCOURSES:
WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. NONERODIBLE MATERIAL SHALL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS AND COFFERDAMS. EARTHEN FILL MAY BE USED FOR THESE STRUCTURES IF ARMORED BY NONERODIBLE COVER MATERIALS.

13. CROSSING A LIVE WATERCOURSE:
WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES MORE THAN TWICE IN ANY SIX MONTH PERIOD, A TEMPORARY STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIALS SHALL BE PROVIDED.

14. APPLICABLE REGULATIONS:
ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS PERTAINING TO WORKING IN OR CROSSING LIVE WATERCOURSES SHALL BE MET.

15. STABILIZATION OF BED AND BANKS
THE BED AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.

16. UNDERGROUND UTILITIES:
THE CONTRACTOR SHALL INSTALL UNDERGROUND UTILITIES IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER CRITERIA:
A. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.
B. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES
C. EFFLUENT FOR DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFFSITE PROPERTY.
D. MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.
E. RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS.
F. APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.

17. CONSTRUCTION ACCESS ROUTES:
WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY VEHICULAR TRACKING ONTO PAVED SURFACES. WHERE SEDIMENT IS TRANSPORTED ON TO A PUBLIC ROAD SURFACE, THE ROAD SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER. THIS PROVISION SHALL APPLY TO INDIVIDUAL LOTS AS WELL AS TO LARGER LAND DISTURBING ACTIVITIES.

18. TEMPORARY E&S CONTROL MEASURE REMOVAL:
THE CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE LOCAL PROGRAM AUTHORITY. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENT.

19. ADEQUACY OF RECEIVING CHANNELS:
PROPERTIES AND WATERWAYS DOWNSTREAM FROM THE DEVELOPMENT SITE SHALL BE PROTECTED FROM SEDIMENT DEPOSITION, EROSION AND DAMAGE, DUE TO INCREASES IN VOLUME, VELOCITY AND PEAK FLOW RATES OF STORMWATER RUNOFF FOR THE STATED FREQUENCY STORM OF 24-HOUR DURATION.

CONTRACTOR SHALL CONTACT MISS UTILITY @ 1-800-552-7001 FOR LOCATION OF ALL UTILITIES, AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.

100% PLANS NOT FOR CONSTRUCTION

COMMONWEALTH OF VIRGINIA
LYNETTE L. WUENSCH
Lic. No. 38710
09/29/16
PROFESSIONAL ENGINEER

EPRPC
Traffic · Transportation · Stormwater · Civil
Civil • Stormwater • Traffic • Transportation
637 BERKMAR CIRCLE
Charlottesville • Virginia
22901 • (804) 647-7701

EROSION & SEDIMENT CONTROL NOTES

SCALE	PROJECT	SHEET NO.
0 40' 80'	LYNCHBURG STADIUM	4.06

PROJECT MANAGER William "Clay" Simmons, P.E. (434) 455-4443
SURVEYED BY, DATE BERKLEY HOWELL & ASSOC., P.C. 11-16-2011
DESIGN BY McCormick Taylor Inc. (804-762-5800)
SUBSURFACE UTILITY BY, DATE

EROSION AND SEDIMENT CONTROL APPROVAL

TRC:__________________ DATE:____________

E&S:__________________ DATE:____________

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		STADIUM NEW PARKING	

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

EROSION AND SEDIMENT CONTROL NOTES:

1. ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATION OF THE "VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK".

2. THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ON WEEK PRIOR TO THE PER-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITIES AND ONE WEEK PRIOR TO THE FINAL INSPECTION.

3. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS A FIRST STEP IN CLEARING.

4. A COPY OF THE EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON SITE AT ALL TIMES.

5. PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS, THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE PLAN APPROVING AUTHORITY

6. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE PLAN APPROVING AUTHORITY.

7. ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED

8. DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE

9. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.

10. SEDIMENT WILL BE REMOVED FROM BEHIND THE SEDIMENT FENCE WHEN IT BECOMES ABOUT 0.5 FT DEEP AT THE FENCE. THE SEDIMENT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER.

11. ALL SEEDED AREAS WILL BE FERTILIZED, RESEEDED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.

12. THE CONTRACTOR SHALL INSPECT THE DOWNSTREAM CHANNEL FOR EROSION AND MAKE NECESSARY ADJUSTMENTS TO E&S PLAN TO PREVENT FURTHER EROSION.

13. ALL E&S MEASURES SHALL BE DE-WATERED PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

14. ALL TEMPORARY E&S MEASURERS MUCH BE REMOVED WITHIN 30 DAYS OF PERMANENT STABILIZATION.

GENERAL NOTES:
1. CONTRACTOR SHALL BE RESPONSIBLE FOR STORMWATER VSMP PERMIT FOR CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL SUBMIT VSMP PERMIT REGISTRATION STATEMENT TO THE CITY OF LYNCHBURG.

CONTRACTOR NOTES
1. CLEAR AND GRUB WITHIN PROPERTY AS REQUIRED.
2. STRIP AND STOCKPILE TOPSOIL FOR RE-USE.
3. NO LAND DISTURBANCE WORK WILL BE ALLOWED OUTSIDE THE SCOPE OF THIS PLAN UNTIL FINAL SITE PLAN APPROVAL IS ISSUED FOR THIS PROJECT.
4. CONTRACTOR SHALL MINIMIZE TRAFFIC IN BIORETENTION AREA.

LEGEND
- RIP-RAP OUTFALL
- CULVERT
- POND SURFACE AREA

EROSION AND SEDIMENT CONTROL LEGEND
- 3.01 (SAF) = SAFETY FENCE
- 3.05 (SF) = SILT FENCE
- 3.19 (RR) = RIPRAP
- 3.30 (TO) = TOPSOILING
- 3.31 (TS) = TEMPORARY SEEDING
- 3.32 (PS) = PERMANENT SEEDING
- 3.35 (MU) = MULCHING
- 3.39 (DC) = DUST CONTROL

CONTRACTOR SHALL CONTACT MISS UTILITY @ 1-800-552-7001 FOR LOCATION OF ALL UTILITIES, AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.

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LYNETTE L. WUENSCH
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637 BERKMAR CIRCLE
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EROSION & SEDIMENT CONTROL PLAN

100% PLANS NOT FOR CONSTRUCTION

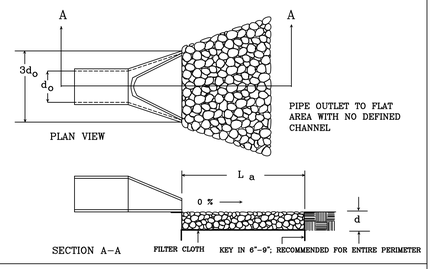
SCALE	PROJECT	SHEET NO.
0 40' 80'	LYNCHBURG STADIUM	4.07

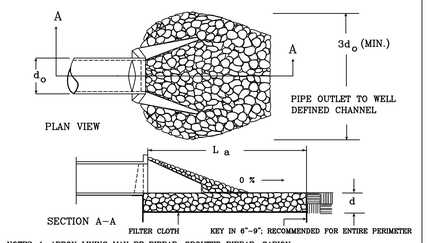
PROJECT MANAGER William "Clay" Simmons, P.E. (434) 455-4443
SURVEYED BY, DATE BERKLEY HOWELL & ASSOC., P.C. 11-16-2011
DESIGN BY McCormick Taylor Inc. (804-762-5800)
SUBSURFACE UTILITY BY, DATE

REVISED	STATE	ROUTE	PROJECT	SHEET NO.
	VA.	×	STADIUM NEW PARKING ×××	×

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

PIPE OUTLET CONDITIONS

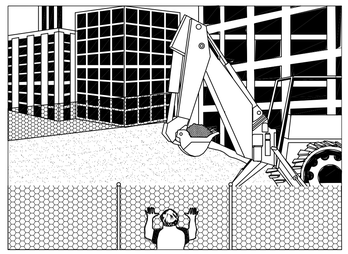




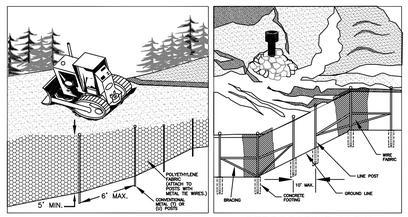
NOTES: 1. APRON LINING MAY BE RIPRAP, GROUTED RIPRAP, GABION BASKET, OR CONCRETE.
2. La IS THE LENGTH OF THE RIPRAP APRON AS CALCULATED USING PLATES 3.18-3 AND 3.18-4.
3. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER, BUT NOT LESS THAN 6 INCHES.

Source: Va. DSWC Plate 3.18-1

SAFETY FENCE



PERSPECTIVE VIEW



PERSPECTIVE VIEW PLASTIC FENCE

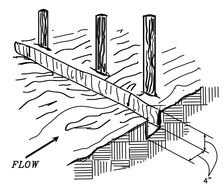
PERSPECTIVE VIEW METAL FENCE

SOURCE: CONWED PLASTICS
VDOT ROAD AND BRIDGE STANDARDS
VA. DSWC

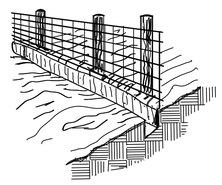
PLATE. 3.1-1

CONSTRUCTION OF A SILT FENCE (WITH WIRE SUPPORT)

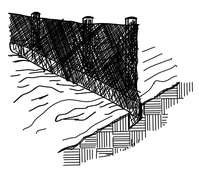
1. SET POSTS AND EXCAVATE A 4"X4" TRENCH UPSLOPE ALONG THE LINE OF POSTS.



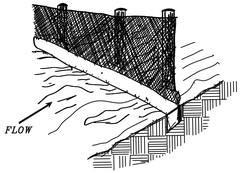
2. STAPLE WIRE FENCING TO THE POSTS.



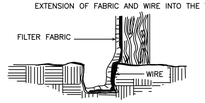
3. ATTACH THE FILTER FABRIC TO THE WIRE FENCE AND EXTEND IT INTO THE TRENCH.



4. BACKFILL AND COMPACT THE EXCAVATED SOIL.



EXTENSION OF FABRIC AND WIRE INTO THE TRENCH.



SOURCE: Adapted from Installation of Straw and Fabric Filter Barriers for Sediment Control, Sherwood & Wyatt

PLATE. 3.05-1

COMMONWEALTH OF VIRGINIA
LYNETTE L. WUENSCH
Lic. No. 38710
09/29/16
PROFESSIONAL ENGINEER

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100% PLANS NOT FOR CONSTRUCTION

EROSION & SEDIMENT CONTROL DETAILS

SCALE	PROJECT	SHEET NO.
0 40' 80'	LYNCHBURG STADIUM	4.08